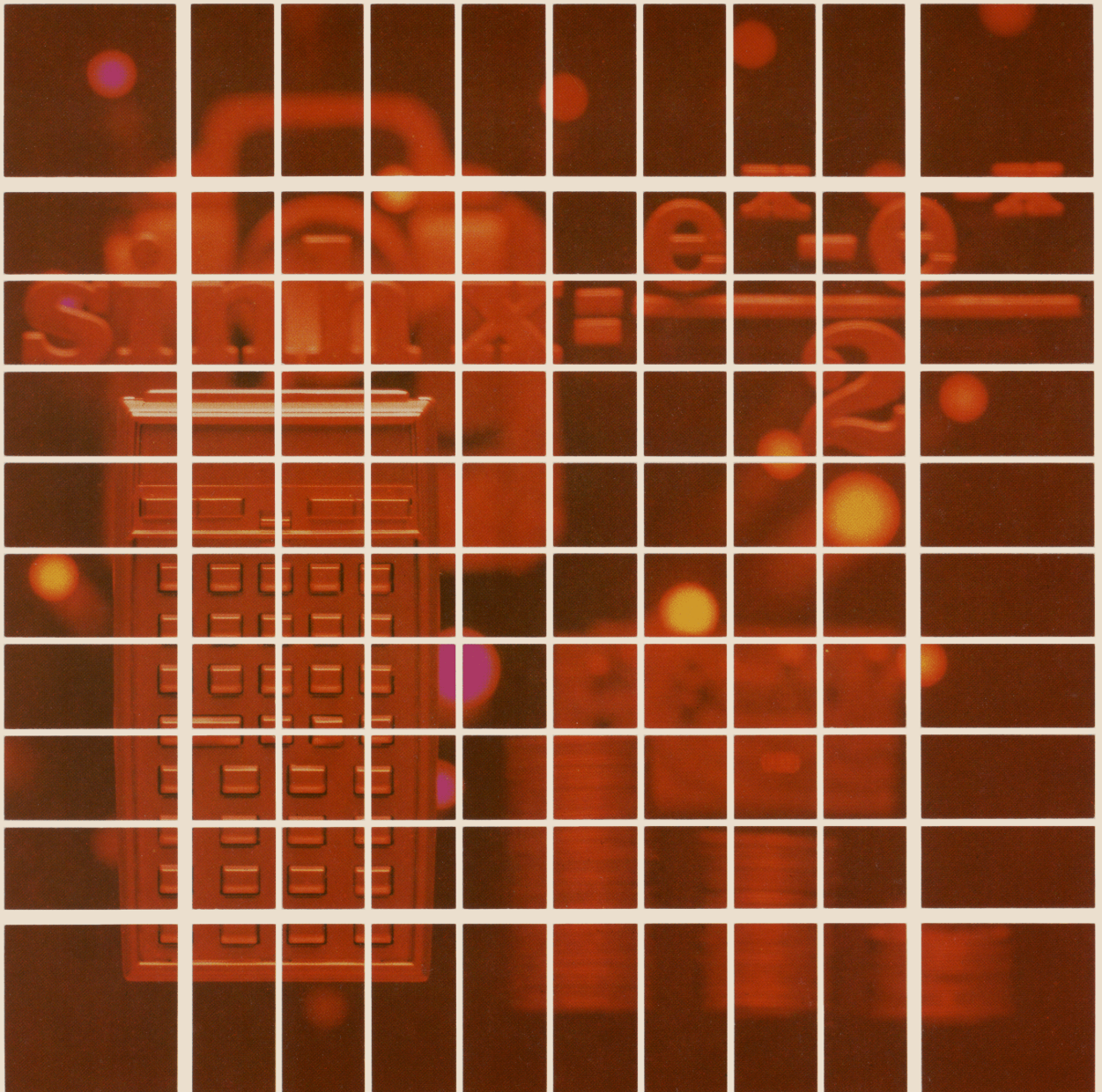


HEWLETT-PACKARD

HP-41

USERS' LIBRARY SOLUTIONS
1984 Taxes

Includes barcode for easy software entry.



NOTICE

The program material contained herein is supplied without representation or warranty of any kind. Hewlett-Packard Company therefore assumes no responsibility and shall have no liability, consequential or otherwise, of any kind arising from the use of this program material or any part thereof.

INTRODUCTION

This HP-41C Solutions book was written to help you get the most from your calculator. The programs were chosen to provide useful calculations for many of the common problems encountered.

They will provide you with immediate capabilities in your everyday calculations and you will find them useful as guides to programming techniques for writing your own customized software. The comments on each program listing describe the approach used to reach the solution and help you follow the programmer's logic as you become an expert on your HP calculator.

KEYING A PROGRAM INTO THE HP-41C

There are several things that you should keep in mind while you are keying in programs from the program listings provided in this book. The output from the HP 82143A printer provides a convenient way of listing and an easily understood method of keying in programs without showing every keystroke. This type of output is what appears in this handbook. Once you understand the procedure for keying programs in from the printed listings, you will find this method simple and fast. Here is the procedure:

1. At the end of each program listing is a listing of status information required to properly execute that program. Included is the SIZE allocation required. Before you begin keying in the program, press **[XEQ]** **[ALPHA]** **SIZE** **[ALPHA]** and specify the allocation (three digits; e.g., 10 should be specified as 010).

Also included in the status information is the display format and status of flags important to the program. To ensure proper execution, check to see that the display status of the HP-41C is set as specified and check to see that all applicable flags are set or clear as specified.

2. Set the HP-41C to PRGM mode (press the **[PRGM]** key) and press **[GTO]** **[.]** **[.]** to prepare the calculator for the new program.
3. Begin keying in the program. Following is a list of hints that will help you when you key in your programs from the program listings in this handbook.
 - a. When you see " (quote marks) around a character or group of characters in the program listing, those characters are ALPHA. To key them in, simply press **[ALPHA]**, key in the characters, then press **[ALPHA]** again. So "SAMPLE" would be keyed in as **[ALPHA]** "SAMPLE" **[ALPHA]**.
 - b. The diamond in front of each LBL instruction is only a visual aid to help you locate labels in the program listings. When you key in a program, ignore the diamond.
 - c. The printer indication of divide sign is /. When you see / in the program listing, press **[÷]**.
 - d. The printer indication of the multiply sign is ×. When you see × in the program listing, press **[×]**.
 - e. The † character in the program listing is an indication of the **[APPEND]** function. When you see †, press **[APPEND]** in ALPHA mode (press **[ALPHA]** and the K key).
 - f. All operations requiring register addresses accept those addresses in these forms:
nn (a two-digit number)
IND nn (INDIRECT: **[IND]**, followed by a two-digit number)
X, Y, Z, T, or L (a STACK address: **[R]** followed by X, Y, Z, T, or L)
IND X, Y, Z, T or L (INDIRECT stack: **[IND]** **[R]** followed by X, Y, Z, T, or L)

Indirect addresses are specified by pressing **[IND]** and then the indirect address. Stack addresses are specified by pressing **[R]** followed by X, Y, Z, T, or L. Indirect stack addresses are specified by pressing **[IND]** **[R]** and X, Y, Z, T, or L.

Printer Listing

```
01 *LBL "SAM
PLE"
02 "THIS IS
A "
03 "†SAMPLE
"
04 AVIEW
05 6
06 ENTER†
07 -2
08 /
09 ABS
10 STO IND
L
11 "R3="
12 ARCL 03
13 AVIEW
14 RTN
```

Keystrokes

```
[LBL] [ALPHA] SAMPLE [ALPHA]
[ALPHA] THIS IS A [ALPHA]
[ALPHA] [APPEND] SAMPLE
[AVIEW] [ALPHA]
6
[ENTER]
2 [CHS]
[+]
[XEQ] [ALPHA] ABS [ALPHA]
[STO] [R] L
[ALPHA] R3= [ARCL] 03
[AVIEW]
[ALPHA]
[RTN]
```

Display

```
01 LBLT SAMPLE
02T THIS IS A
03T † SAMPLE
04 AVIEW
05 6
06 ENTER†
07 -2
08 /
09 ABS
10 STO IND L
11T R3=
12 ARCL 03
13 AVIEW
14 RTN
```


PROGRAM DESCRIPTION

FORM 1040

PURPOSE -

The purpose of this program is to aid the user in completing U.S. Individual Income Tax Form 1040.

FEATURES/WARNINGS -

The program is relatively straightforward in its operation. Once begun, it steps through the tax form displaying values it assumes to be correct for each line of the form.

Lines that require input from the user are denoted by a colon (":") between the line name (a string of five characters) and the current line value (some number). For example:

in the display "STATS: 2.",

"STATS" is an abbreviation for "Filing Status",
": " indicates user-specified (input) value, and
"2." is the current value.

Whenever the user encounters a program display similar to the one just described, its line value may be changed simply by keying in some new value (using the numeric keys) and pressing [R/S] (to continue the program). Manual calculations may be performed at this time using the HP-41's stack in order to arrive at the desired value to be input.

Lines that represent values calculated by the program, and which should be copied to the form, are denoted by an equal sign ("=") between the line name and the line value. For example:

in the display "NETDV= 545.",

"NETDV" is an abbreviation for "Net Dividends",
"= " indicates a program-calculated value, and
"545." is the current line value.

At any time a program display similar to the one just described is encountered, its line value MUST NOT be changed by the user (i.e., by pressing any key other than [R/S]), or the program may perform calculations based on the altered (and incorrect) value.

Not all form 1040 lines have been included in the program. The lines omitted have been so in order to leave space in the computer for programs from this package. The lines omitted were chosen because of their (hopefully) limited use and/or ease of combination with other

lines. If the user finds that he/she requires one of the omitted items, in all cases the value may be added into a neighboring, existing line item with no ill effect on the "bottom line" results. For example, all deleted line items under "Income" could be totalled by the user and added to line 21 (other income).

The following form 1040 lines have been omitted but may be combined with neighboring lines if needed:

- Line 11: alimony recieved,
- Line 14: 40% capital gains distributions,
- Line 15: supplemental gains or losses,
- Line 16: fully taxable pensions,
- Line 17: other penisions/taxable amount,
- Line 19: farm income or loss,
- Line 20: unemployment compensation/taxable amount,
- Line 23: moving expenses,
- Line 26: payments to a Keogh,
- Line 27: penalty on early withdrawl of savings,
- Line 28: alimony paid,
- Line 30: disability income exclusion,
- Line 39: additional tax,
- Lines 41 through 47: credits,
- Lines 50 through 55: other taxes,
- Lines 57 through 63: payments.

Two other forms may be completed while in the process of completing form 1040. These are Schedule A (Itemized Deductions) and Schedule G (Income Averaging). The program will ask the user if either of the form-completing programs is desired. If the user answers in the affirmative, the corresponding program must have already been loaded into the computer or the form 1040 program halt with the fatal error "NONEXISTENT". If this occurs, the user's only recourse is to load the missing program (if desired) and to restart the 1040 program. If the programs exist in memory, and the user answers yes to the proper questions, the required programs will be executed and, at their respective terminations, the 1040 program will be continued. The above- described option is meant only as a convenience. If the user prefers to complete each form independent of the others, he or she may.

The program works equally well in any display mode (FIX, SCI, ENG, 0 through 9), but best results will be obtained using either FIX 0 or 2 which correspond to whole dollar amounts and dollars-and-cents amounts respectively. Money values may be entered in either fashion regardless of the display mode and will be remembered by the program exactly as they are input. However, the display mode does have an effect on the program's output. All output values will be generated using the input values rounded to the current display mode (viz., an input of 9.25 in FIX 0 will be rounded to 9 before it is used in a calculation whereas the same value in FIX 2 will not be altered), and

will cause small but perhaps significant deviations in output. The fact that the values are retained exactly as they are input allows the user to rerun the program with the same input values in another display mode and quickly see the difference between using whole dollar and dollars-and-cents values.

The program does no error checking! All input values are assumed to be correct and are used as such. Erroneous values will usually not halt the program. The program may either be run to completion, or manually halted and restarted. Either way, the valid inputs may be skipped by pressing [R/S] and the invalid inputs corrected by entering the proper value when the line is displayed.

The program is compatible with printers. If a printer is attached, the program assumes it is on. All input values are echoed and all output values are streamed to the printer. With respect to the user, input values are treated in the same fashion regardless of the printer's presence. The output of program generated values, on the other hand, differs dramatically based on the printer's existence. Without a printer, the program halts at each output value in the same fashion that it does when asking for input, thus allowing the user to record the value. With a printer, program-generated output does not halt program execution, is not displayed and is recorded on the printer.

One feature of the program allows the user to skip all input prompts if the existing values are known to be correct. In this mode, the user without a printer may view only those lines calculated by the program. The user with a printer may rapidly generate an uninterrupted printout of both input and output. This mode is active when the flag 0 annunciator is lit in the display.

SAMPLE PROBLEM

EXAMPLE -

Fill out the form on page 7 and 8.

The following example assumes:

- * that programs "FT" (form 1040), "T4" (1984 Tax Tables), and "O" (common subroutines) have been loaded into memory.
- * there are 29 available data registers (i.e., SIZE has been set to a number greater than 28).
- * the program is in "input mode." This is accomplished by pressing [XEQ] "P" repeatedly (no more than twice is necessary) until the annunciator for flag 0 cannot be seen in the display.
- * all pertinent data registers contain the value 0. This is only for convenience in describing the example and is not required. If the user desires to duplicate the example exactly, and is certain that no important data will be destroyed, the computer's CLRG function may be employed to clear data memory (via [XEQ] "CLRG").
- * the display mode is FIX 0.
- * flags 28 and 29 are set (HP-41 decimal point and digit grouping flags).

SOLUTION

DISPLAY	INPUT	KEYSTROKES	COMMENTS
=====			
FORM 1040		[XEQ] "FT"	
STATS: 0.		[R/S]*	Identifies the program.
EXMPT: 0.	2	[R/S]	Lines 1-5, filing status.
	4	[R/S]	Line 6e, total number of exemptions claimed.
WAGES: 0.	38456	[R/S]	Line 7, Wages, salaries, tips, etc.
INT : 0.	428	[R/S]	Line 8, interest income.
DIVID: 0.	745	[R/S]	Line 9a, dividends.
EXCLN: 0.	200	[R/S]	Line 9b, exclusion.

DISPLAY	INPUT	KEYSTROKES	COMMENTS
NETDV= 545.		[R/S]*	Line 9c, the difference between 9a and 9b.
STRFD: 0.	254	[R/S]	Line 10, State and local income tax refunds.
SCH C: 0.		[R/S]	Line 12, business income or loss.
SCH D: 0.	1392	[R/S]	Line 13, capital gain or loss
SCH E: 0.	8633	[R/S]	Line 18, rents, royalties, partnerships, estates, trusts, etc.
OTHIN: 0.	285	[R/S]	Line 22, other income.
TOTIN= 49,993.		[R/S]*	Line 23, total income.
EXPNS: 0.		[R/S]	Line 25, employee business expenses.
IRA : 0.	2000	[R/S]	Line 26a, payments to an IRA.
SCH W: 0.	348	[R/S]	Line 30, Deduction for a married couple when both work
TOTAD= 2,348.		[R/S]*	Line 31, total adjustments.
AGI = 47,645.		[R/S]*	Line 32 & 33, adjusted gross income.
SCHED A ?		[R/S]	This query comes up in ALPHA mode. Pressing "Y" causes the program to try to execute the Schedule A program. Any other response continues the current program.
DEDCT: 0.	2707	[R/S]	Line 34a, itemized deductions. If the Schedule A program was not run, this is a prompt for input. If the Schedule A program was run, this value will be output (i.e., "DEDCT= x").
LIN35= 44,938.		[R/S]*	Line 35, the difference between lines 33 and 34a.
EXMP\$= 4,000.		[R/S]*	Line 36, line 63 x 1000.
TXABL= 40,938.		[R/S]*	Line 37, taxable income.
TX84T= 8,163.		[R/S]	Line 38, 1984 tax. If program "T5" were loaded instead of "T4" the line name would read "85" instead of "84". The final "T" indicates that the value was extracted from the tax tables. If the tables could not be used, the "T" would be omitted.

DISPLAY	INPUT	KEYSTROKES	COMMENTS
SCHED G ?		[R/S]	This query comes up in ALPHA mode. Pressing "Y" and [R/S] causes the program to try to execute the Schedule G program. Any other response continues the current program.
CRDIT: 0.	124	[R/S]	Line 45 and/or line 49: total credits.
NETTX= 8,039.		[R/S]*	Line 50, the difference between lines 38 and 45/49.
OTHTX: 0.		[R/S]	The total of lines 51 through 55.
TOTTX= 8,039.		[R/S]*	Line 56, total tax. The sum of lines 50 through 55.
TOTPD: 0.	7855	[R/S]	Line 64, total tax paid. The sum of lines 57 through 63.
BLDUE= 184.		[R/S]*	Line 68, the amount you owe. If line 64 were greater than line 56, this value would be line 65, the amount overpaid, and would read "REFND= x".
184.			The last output is left in the X-register.

* [R/S] in this instance is not necessary if a printer is in use.

Form

1040

Department of the Treasury—Internal Revenue Service

U.S. Individual Income Tax Return**1984**

For the year January 1-December 31, 1984, or other tax year beginning

1984, ending

19

OMB No. 1545-0074

Use IRS label. Otherwise, please print or type.	Your first name and initial (if joint return, also give spouse's name and initial)		Last name		Your social security number		
	Present home address (Number and street, including apartment number, or rural route)					Spouse's social security number	
	City, town or post office, State, and ZIP code			Your occupation		Spouse's occupation	

Presidential Election Campaign	Do you want \$1 to go to this fund?	Yes	No	Note: Checking "Yes" will not change your tax or reduce your refund.
	If joint return, does your spouse want \$1 to go to this fund?	Yes	No	

Filing Status Check only one box.	1	<input type="checkbox"/> Single	For Privacy Act and Paperwork Reduction Act Notice, see Instructions.
	2	<input checked="" type="checkbox"/> Married filing joint return (even if only one had income)	
	3	<input type="checkbox"/> Married filing separate return. Enter spouse's social security no. above and full name here. _____	
	4	<input type="checkbox"/> Head of household (with qualifying person). (See page 5 of Instructions.) If the qualifying person is your unmarried child but not your dependent, write child's name here. _____	
	5	<input type="checkbox"/> Qualifying widow(er) with dependent child (Year spouse died ▶ 19 ____). (See page 6 of Instructions.)	

Exemptions

Always check the box labeled Yourself. Check other boxes if they apply.

6a	<input type="checkbox"/> Yourself	<input type="checkbox"/> 65 or over	<input type="checkbox"/> Blind	Enter number of boxes checked on 6a and b ▶ <input type="text"/>		
b	<input type="checkbox"/> Spouse	<input type="checkbox"/> 65 or over	<input type="checkbox"/> Blind			
c First names of your dependent children who lived with you _____				Enter number of children listed on 6c ▶ <input type="text"/>		
d Other dependents:		(2) Relationship	(3) Number of months lived in your home	(4) Did dependent have income of \$1,000 or more?	(5) Did you provide more than one-half of dependent's support?	Enter number of other dependents ▶ <input type="text"/> Add numbers entered in boxes above ▶ 4
(1) Name						

e Total number of exemptions claimed (also complete line 36).**Income**

Please attach Copy B of your Forms W-2, W-2G, and W-2P here.

If you do not have a W-2, see page 4 of Instructions.

Please attach check or money order here.

7	Wages, salaries, tips, etc.	7	38,456
8	Interest income (also attach Schedule B if over \$400)	8	428
9a	Dividends (also attach Schedule B if over \$400) <u>745</u>	9b	Exclusion <u>200</u>
9c	Subtract line 9b from line 9a and enter the result	9c	545
10	Refunds of State and local income taxes, from the worksheet on page 9 of Instructions (do not enter an amount unless you itemized deductions for those taxes in an earlier year—see page 9)	10	254
11	Alimony received	11	
12	Business income or (loss) (attach Schedule C)	12	
13	Capital gain or (loss) (attach Schedule D)	13	1,392
14	40% of capital gain distributions not reported on line 13 (see page 9 of Instructions)	14	
15	Supplemental gains or (losses) (attach Form 4797)	15	
16	Fully taxable pensions, IRA distributions, and annuities not reported on line 17	16	
17a	Other pensions and annuities, including rollovers. Total received 17a _____	17b	
18	Taxable amount, if any, from the worksheet on page 10 of Instructions	18	8,633
19	Rents, royalties, partnerships, estates, trusts, etc. (attach Schedule E)	19	
20a	Farm income or (loss) (attach Schedule F)	20a	
20b	Unemployment compensation (insurance). Total received 20a _____	20b	
21a	Taxable amount, if any, from the worksheet on page 10 of Instructions	21a	
21b	Social security benefits. (see page 10 of Instructions)	21b	
22	Taxable amount, if any, from the worksheet on page 11 of Instructions	22	285
23	Other income (state nature and source—see page 11 of Instructions) _____	23	49,993

Adjustments to Income

(See Instructions on page 11.)

24	Moving expense (attach Form 3903 or 3903F)	24	
25	Employee business expenses (attach Form 2106)	25	
26a	IRA deduction, from the worksheet on page 12	26a	2,000
27	Enter here IRA payments you made in 1985 that are included in line 26a above ▶ _____	27	
28	Payments to a Keogh (H.R. 10) retirement plan	28	
29	Penalty on early withdrawal of savings	29	
30	Alimony paid	30	348
31	Deduction for a married couple when both work (attach Schedule W)	31	
32	Add lines 24 through 30. These are your total adjustments	32	2,348

Adjusted Gross Income

32	Subtract line 31 from line 23. This is your adjusted gross income . If this line is less than \$10,000, see "Earned Income Credit" (line 59) on page 16 of Instructions. If you want IRS to figure your tax, see page 12 of Instructions.	32	47,645
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Tax Computation

(See Instructions on page 13.)

33	Amount from line 32 (adjusted gross income)	33	47,1045
34a	If you itemize, attach Schedule A (Form 1040) and enter the amount from Schedule A, line 26 Caution: If you have unearned income and can be claimed as a dependent on your parent's return, check here <input type="checkbox"/> and see page 13 of the Instructions. Also see page 13 if: • You are married filing a separate return and your spouse itemizes deductions, OR • You file Form 4563, OR • You are a dual-status alien.	34a	2,707
34b	If you do not itemize deductions, and you have charitable contributions, complete the worksheet on page 14. Then enter the allowable part of your contributions here	34b	
35	Subtract line 34a or 34b, whichever applies, from line 33	35	44,938
36	Multiply \$1,000 by the total number of exemptions claimed on Form 1040, line 6e	36	4,000
37	Taxable Income. Subtract line 36 from line 35.	37	40,938
38	Tax. Enter tax here and check if from <input type="checkbox"/> Tax Table, <input type="checkbox"/> Tax Rate Schedule X, Y, or Z, or <input type="checkbox"/> Schedule G	38	8,163
39	Additional Taxes. (See page 14 of Instructions.) Enter here and check if from <input type="checkbox"/> Form 4970, <input type="checkbox"/> Form 4972, or <input type="checkbox"/> Form 5544	39	
40	Add lines 38 and 39. Enter the total	40	8,163

Credits

(See Instructions on page 14.)

41	Credit for child and dependent care expenses (attach Form 2441)	41	124
42	Credit for the elderly and the permanently and totally disabled (attach Schedule R)	42	
43	Residential energy credit (attach Form 5695)	43	
44	Partial credit for political contributions for which you have receipts	44	
45	Add lines 41 through 44. These are your total personal credits	45	124
46	Subtract line 45 from 40. Enter the result (but not less than zero)	46	
47	Foreign tax credit (attach Form 1116)	47	
48	General business credit. Check if from <input type="checkbox"/> Form 3800, <input type="checkbox"/> Form 3468, <input type="checkbox"/> Form 5884, <input type="checkbox"/> Form 6478	48	
49	Add lines 47 and 48. These are your total business and other credits	49	
50	Subtract line 49 from 46. Enter the result (but not less than zero)	50	8,039

Other Taxes

(Including Advance EIC Payments)

51	Self-employment tax (attach Schedule SE)	51	
52	Alternative minimum tax (attach Form 6251)	52	
53	Tax from recapture of investment credit (attach Form 4255)	53	
54	Social security tax on tip income not reported to employer (attach Form 4137)	54	
55	Tax on an IRA (attach Form 5329)	55	
56	Add lines 50 through 55. This is your total tax	56	8,039

Payments

Attach Forms W-2, W-2G, and W-2P to front.

57	Federal income tax withheld	57	5,855
58	1984 estimated tax payments and amount applied from 1983 return	58	2,000
59	Earned income credit. If line 33 is under \$10,000, see page 16	59	
60	Amount paid with Form 4868	60	
61	Excess social security tax and RRTA tax withheld (two or more employers)	61	
62	Credit for Federal tax on gasoline and special fuels (attach Form 4136)	62	
63	Regulated Investment Company credit (attach Form 2439)	63	
64	Add lines 57 through 63. These are your total payments	64	7,855

Refund or Amount You Owe

65	If line 64 is larger than line 56, enter amount OVERPAID	65	
66	Amount of line 65 to be REFUNDED TO YOU	66	
67	Amount of line 65 to be applied to your 1985 estimated tax	67	
68	If line 56 is larger than line 64, enter AMOUNT YOU OWE . Attach check or money order for full amount payable to "Internal Revenue Service." Write your social security number and "1984 Form 1040" on it (Check <input type="checkbox"/> if Form 2210 (2210F) is attached. See page 17 of Instructions.) \$	68	184

Please Sign Here

Under penalties of perjury, I declare that I have examined this return and accompanying schedules and statements, and to the best of my knowledge and belief, they are true, correct, and complete. Declaration of preparer (other than taxpayer) is based on all information of which preparer has any knowledge.

	Date		Date
Your signature		Spouse's signature (if filing jointly, BOTH must sign)	

Paid Preparer's Use Only

Preparer's signature	Date	Check if self-employed <input type="checkbox"/>	Preparer's social security no.
Firm's name (or yours, if self-employed) and address	E.I. No.		ZIP code

USER INSTRUCTIONS

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
=====			
1. At a minimum, load the following programs: "FT" (form 1040), "T4" ('84 tax tables) or "T5" ('85 tax tables), and "O" (misc. routines).		[shift][GTO] .. [shift][GTO] .. [shift][GTO] ..	
2. Allocate data registers (minimum 29).		[XEQ] "SIZE" 029	
3. Select an appropriate display format.		[shift] [FIX] n	
4. Select either "prompting" (flag 0 set) or "non-prompting" (flag 0 clear) mode. Pressing [XEQ] "P" toggles between these modes.		[XEQ] "P"	
5. Run the 1040 program.		[XEQ] "FT"	FORM 1040
6. This display identifies the program.		*[R/S]	STATS: x
7. Enter one of lines 1-5: your filing status.	status	[R/S]	EXMPT: x
8. Enter line 6e: total number of exemptions claimed.	exemptions	[R/S]	WAGES: x
9. Enter line 7: Wages, salaries, tips, etc.	wages	[R/S]	INT : x
10. Enter line 8: interest income.	interest	[R/S]	DIVID: x
11. Enter line 9a: dividends.	dividends	[R/S]	EXCLN: x
12. Enter line 9b: exclusion.	exclusion	[R/S]	NETDV= x
13. Output line 9c, the difference between lines 9a and 9b.		*[R/S]	STRFD: x
14. Enter line 10: State and local income tax refunds.	refunds	[R/S]	SCH C: x
15. Enter line 12: business income or loss. (+ or -)	bus. inc.	[R/S]	SCH D: x

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
=====			
16. Enter line 13: capital gain or loss. (+ or -)	cap. gain	[R/S]	SCH E: x
17. Enter line 18: rents, royalties, partnerships, estates, trusts, etc. (+ or -).	rents, etc.	[R/S]	OTHIN: x
18. Enter line 22: other income.	other inc.	[R/S]	TOTIN= x
19. Output of line 23: total income.		*[R/S]	EXPNS: x
20. Enter line 25: employee business expenses.	expense	[R/S]	IRA : x
21. Enter line 26a: payments to an IRA.	IRA	[R/S]	SCH W: x
22. Enter line 30: Deduction for a married couple when both work.	deduction	[R/S]	TOTAD= x
23. Output line 31: total adjustments to income.		*[R/S]	AGI = x
24. Output of line 32: adjusted gross income.		*[R/S]	SCHED A ?
25. This query comes up in ALPHA mode. Pressing "Y", causes the program to try to execute the Schedule A program (see Schedule A program instructions). Any other response continues the current program.	"Y" or any	[R/S]	DEDCT: x
26. Enter line 34a: itemized deductions. If the Schedule A program was not run, this is a prompt for input. If the Schedule A program was run, the program returns to 1040 at this point and this value will be output (i.e., "DEDCT= x").	deductions	[R/S]	LIN35= x

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
=====			
27. Output of line 35: the difference between lines 33a and 34.		*[R/S]	EXMP\$= x
28. Output of line 36: line 6e x 1000.		*[R/S]	TXABL= x
29. Output of line 37: taxable income.		*[R/S]	TX84T= x
30. Output line 38, 1984 tax. If program "T5" were loaded instead of "T4" the line name would read "85" instead of "84". The final "T" indicates that the value was extracted from the tax tables. If the tables could not be used, the "T" would be omitted.		*[R/S]	SCHED G ?
31. This query comes up in ALPHA mode. Pressing "Y", [R/S] causes the program to try to execute the Schedule G program. Any other response continues the current program. If the Schedule G program was run, control returns to the current program at the User Instruction step 32.	"Y" or any	[R/S]	CRDIT: x
32. Enter line 45 and/or line 49: total credits.	total	[R/S]	NETTX= x
33. Output of line 50: the difference between lines 38 and 45/49.		*[R/S]	OTHTX: x
34. Enter the total of lines 51 through 55.	total	[R/S]	TOTTX= x
35. Output of line 56: total tax, the sum of lines 50 through 55.		*[R/S]	TOTPD: x

```

flag 06 : set - to disable the storage feature of routine "S"
flag 08 : set - to disable the increment feature of routine "S"
flag 08 : set - indicates the tax table routine was used
             clear - indicates the tax table routine was not used
                   (note that no other routine that uses flag 08
                     was called during this manipulation)
flag 10 : cleared, and tested - to determine if the Schedule A
             program (which sets flag 10) was run
flag 12 : set - print double wide (for the printed program
             identifier)

```

The following data registers are used:

- 00 = register index for data manipulation
- * 01 = lines 1 through 5: filing status
- 02 = line 6e: total number of exemptions claimed
- 03 = line 7: wages, salaries, tips, etc.
- 04 = line 8: interest income
- 05 = line 9a: dividends
- 06 = line 9b: exclusion
- 07 = line 10: refunds from state and local income tax
- 08 = line 12: business income or loss
- * 09 = line 13: capital gain or loss
- 10 = line 18: rents, royalties, partnerships, estates, trusts, etc.
- 11 = line 21: other income
- 12 = line 22: total income
- 13 = line 24: employee business expenses
- 14 = line 25: payments to IRA
- 15 = line 29: deduction for married couple when both work
- 16 = line 31: total adjustments
- * 17 = line 32 & 33: adjusted gross income
- * 18 = line 34: itemized deductions
- 19 = line 35: line 33 (32) minus line 34
- 20 = line 36: line 4e * 1000
- * 21 = line 37: taxable income (line 36 from 35)
- * 22 = line 38: tax; tax after averaging;
line 50: tax after credits
- 23 = line 45 or 49: total credits
- 24 = lines 51 through 55: other tax
- 25 = line 56: total tax
- 26 = line 64: total paid
- 27 = pointer to a register where a total is currently being accumulated
- 28 = used by tax rate routines (see appropriate routine)

* indicates registers containing values used by other program(s).

PROGRAM LISTING

```

01 *LBL "FT"
02 SF 12
03 12
04 "FORM 10
40"
05 XEQ "U"
06 XEQ "Z"
07 "EXMPT"
08 XEQ "Z"
09 ADV
10 "WAGES"
11 XEQ "Y"
12 "INT "
13 XEQ "Y"
14 "DIVID"
15 XEQ "Z"
16 "EXCLN"
17 XEQ "Z"
18 "NETDV"
19 SF 06
20 SF 08
21 XEQ "S"
22 "STRFD"
23 XEQ "Y"
24 "SCH C"
25 XEQ "Y"
26 "SCH D"
27 XEQ "Y"
28 "SCH E"
29 XEQ "Y"
30 "OTHIN"
31 XEQ "Y"
32 "TOTIN"
33 RCL 12
34 XEQ "X"
35 ADV
36 16
37 XEQ "T"
38 "EXPNS"
39 XEQ "Y"
40 "IRA "
41 XEQ "Y"
42 "SCH W"
43 XEQ "Y"
44 "TOTAD"
45 RCL 16
46 XEQ "X"
47 ADV
48 CF 10
49 "AGI "
50 RCL 12
51 RND
52 X<>Y
53 -
54 STO 17
55 XEQ "X"
56 ADV
57 "A"
58 XEQ "Q"
59 "DEBCT"
60 FC? 10
61 XEQ "Z"
62 FC?C 10
63 GTO 07
64 XEQ "X"
65 ADV
66 XEQ "O"
67 ADV
68 *LBL 07
69 "LIN35"
70 XEQ "S"
71 "EXMP$"
72 RCL 02
73 RND
74 1 E3
75 *
76 STO 20
77 XEQ "X"
78 "TXABL"
79 XEQ "S"
80 ADV
81 "TAX "
82 X=0?
83 GTO 09
84 XEQ "W"
85 X<>Y
86 X<Y?
87 CLX
88 X=0?
89 GTO 09
90 CF 08
91 5 E4
92 X<>Y
93 X*Y?
94 X>Y?
95 GTO 06
96 ENTER↑
97 SF 08
98 1
99 *
100 3 E3
101 X<=Y?
102 ISG L
103 CLD
104 RDN
105 LASTX
106 25
107 *
108 MOD
109 LASTX
110 2
111 /
112 RDN
113 -
114 R↑
115 +
116 *LBL 06
117 XEQ "R"
118 FC? 08
119 "F "
120 FC?C 08
121 GTO 09
122 "FT"
123 .5
124 +
125 INT
126 *LBL 09
127 STO 22
128 XEQ "X"
129 ADV
130 "G"
131 XEQ "Q"
132 25
133 XEQ "T"
134 "CRDIT"
135 23
136 STO 00
137 XEQ "Z"
138 "NETTX"
139 SF 06
140 SF 08
141 XEQ "S"
142 STO 22
143 "OTHTX"
144 XEQ "Y"
145 "TOTTX"
146 RCL 25
147 XEQ "X"
148 "TOTPD"
149 XEQ "Z"
150 "BLDUE"
151 RCL 25
152 RND
153 -
154 X>0?
155 "REFND"
156 ABS
157 XEQ "X"
158 ADV
159 ADV
160 .END.

```

FORM FT: 1040

ROW 1: LINES 1-4



ROW 2: LINES 4-6



ROW 3: LINES 7-10



ROW 4: LINES 10-13



ROW 5: LINES 13-16



ROW 6: LINES 16-18



ROW 7: LINES 19-22



ROW 8: LINES 23-26



ROW 9: LINES 26-28



ROW 10: LINES 28-31



ROW 11: LINES 32-36



ROW 12: LINES 37-40



FORM FT: 1040

ROW 13: LINES 40-42



ROW 14: LINES 42-46



ROW 15: LINES 46-51



ROW 16: LINES 52-58



ROW 17: LINES 59-62



ROW 18: LINES 63-69



ROW 19: LINES 69-71



ROW 20: LINES 72-78



ROW 21: LINES 78-81



ROW 22: LINES 81-89



ROW 23: LINES 90-97



ROW 24: LINES 98-106



FORM FT: 1040

ROW 25: LINES 107-117



ROW 26: LINES 118-123



ROW 27: LINES 123-131



ROW 28: LINES 131-134



ROW 29: LINES 135-139



ROW 30: LINES 139-143



ROW 31: LINES 143-147



ROW 32: LINES 147-150



ROW 33: LINES 150-155



ROW 34: LINES 155-160



PROGRAM DESCRIPTION

SCHEDULE A ITEMIZED DEDUCTIONS

PURPOSE -

The purpose of this program is to aid the user in itemizing deductions using Schedule A.

FEATURES/WARNINGS -

The program is relatively straightforward in its operation. Once begun, it steps through the tax form displaying values it assumes to be correct for each line of the form.

Lines that require input from the user are denoted by a colon (":") between the line name (a string of five characters) and the current line value (some number). For example:

in the display "STATS: 2.",

"STATS" is an abbreviation for "Filing Status",
": " indicates a user-specified value, and
"2." is the current value.

Whenever the user encounters a program display similar to the one just described, its line value may be used as is by pressing [R/S] (to continue the program) or may be changed by keying in some new value (using the numeric keys) and pressing [R/S] (to continue the program). Manual calculations may be performed at this time using the HP-41's stack in order to arrive at the desired value to be input.

Lines that represent values calculated by the program, and which should be copied to the form, are denoted by an equal sign ("=") between the line name and the line value. For example:

in the display "1%AGI= 364.",

"1%AGI" is an abbreviation for "one percent of adjusted gross income",
"=" indicates a program-calculated value, and
"364." is the current line value.

Whenever a program display similar to the one just described is encountered, its line value MUST NOT be changed by the user (i.e., by pressing any key other than [R/S]), or the program may perform calculations based on the altered (and incorrect) value.

Not all Schedule A lines have been included in the program. The lines omitted have been so in order to leave space in the computer for other programs from this package. The lines omitted were chosen because of their (hopefully) limited use and/or ease of combination with neighboring lines. If the user finds that he/she requires one of the omitted items, in all cases the value may be added into a neighboring, existing line item with no ill effect on the "bottom line" results. For example, all items under "Contributions" can be totalled by the user and added to line 20.

The following Schedule A lines have been omitted but may be combined with neighboring lines if needed:

- Line 10b: general sales on motor vehicles
- Line 17: cash contributions
- Line 18: contributions other than cash
- Line 19: carryover from prior years

The Schedule A program can be run on its own independent of any programs other than the "common routines" program. It may also be "called" from the 1040 program to complete Schedule A in the process of completing form 1040. If the latter occurs, certain line information will be assumed to have been input or calculated by the calling program. In other words, the Schedule A program will run a little differently (omitting certain inputs, treating others as outputs) when called than when run on its own. These differences will be detailed in the User Instructions.

The Schedule A, Schedule D, and alternate minimum tax programs use many common data registers for different purposes. To minimize reentry of altered information, the programs should be executed in the following order: Schedule A, Schedule D, alternate minimum tax.

The program works equally well in any display mode (FIX, SCI, ENG, 0 through 9), but best results will be obtained using either FIX 0 or 2 which correspond to whole dollar amounts and dollars- and- cents amounts respectively. Money values may be entered in either fashion regardless of the display mode and will be remembered by the program exactly as they are input. However, the display mode does have an effect on the program's output. All output values will be generated using the input values rounded to the current display mode (viz., an input of 9.25 in FIX 0 will be rounded to 9 before it is used in a calculation whereas the same value in FIX 2 will not be altered), and will cause small but perhaps significant deviations in output. The fact that the values are retained exactly as input allows the user to rerun the program with no new inputs in another display mode and quickly see the difference between whole dollar and dollars- and cents input.

The program does no error checking! All input values are assumed to be correct, regardless of their values, and are used as such. Erroneous values will usually not halt the program. The program may either be run to completion, or manually halted and restarted. Either way, the valid inputs may be skipped by pressing [R/S] and the invalid inputs corrected by entering the proper value when the line is displayed.

The program is compatible with printers. If a printer is attached, the program assumes it is on. All input values are echoed and all output values are streamed to the printer. With respect to the user, input values are treated in the same fashion regardless of the printer's presence. The output of program generated values, on the other hand, differs dramatically based on the printer's existence. Without a printer, the program halts at each output value in the same fashion that it does when asking for input, thus allowing the user to manually record the value. With a printer, program-generated output does not halt program execution, is not displayed and is recorded on the printer, thus minimizing user interaction.

One feature of the program allows the user to skip all input prompts if the existing values are known to be correct. In this mode, the user without a printer may view only those lines calculated by the program. The user with a printer may rapidly generate an uninterrupted printout of both input and output. This mode is active when the flag 0 annunciator is lit in the display.

SAMPLE PROBLEM

EXAMPLE -

Fill out the form on page 23.

The example assumes:

- * that programs "SA" (Schedule A) and "O" (common subroutines) have been loaded into memory.
- * there are 51 available data registers (i.e., SIZE has been set to a number greater than 50).
- * the program is in "input mode." This is accomplished by pressing [XEQ] "P" repeatedly (no more than twice is necessary) until the annunciator for flag 0 cannot be seen in the display.
- * all pertinent data registers contain the value 0. This is only for convenience in describing the example and is not required. If the user desires to duplicate the example exactly, and is certain that no important data will be destroyed, the computer's CLRG function may be employed to clear data memory (via [XEQ] "CLRG").
- * the display mode is FIX 0.
- * flags 28 and 29 are set (the HP41 decimal point and digit grouping flags).

SOLUTION

DISPLAY	INPUT	KEYSTROKES	COMMENTS
=====			
SCHEDULE A		[XEQ] "SA"	Identifies the program.
STATS: 0.	2	[R/S]*	Lines 1-5 of form 1040:
		[R/S]	filing status. If this
			program was called from the
			1040 program, this prompt
			will be skipped.
AGI : 0.	47645	[R/S]	Line 33 from form 1040:
			adjusted gross income. If
			this program was called from
			the 1040 program, this prompt
			will be skipped.
DRUGS: 0.	512	[R/S]	Line 1: medicine and drugs.
DCTRS: 0.	1864	[R/S]	Line 2a: doctors, dentists,
			nurses, hospitals, etc.
TRNSP: 0.	85	[R/S]	Line 2b: transportation.

DISPLAY	INPUT	KEYSTROKES	COMMENTS
OTHER: 0.	264	[R/S]	Line 2c: other medical expenses.
TOTAL= 2,725.		[R/S]*	Line 3: add lines 1 through 2c.
5%AGI= 2,382.		[R/S]*	Line 4: 5% of line 33 form 1040.
NETMD= 343.		[R/S]*	Line 5: line 4 from line 3.
SLITX: 0.	1373	[R/S]	Line 6: state and local income tax.
RESTX: 0.	833	[R/S]	Line 7: real estate tax.
SLSTX: 0.	325	[R/S]	Line 8: sales tax.
OTHER: 0.		[R/S]	Line 9: other taxes.
TOTTX= 2,531.		[R/S]*	Line 10: total tax.
MORTG: 0.	2377	[R/S]	Line 11: home mortgage interest paid to financial institutions.
CDTCD: 0.	62	[R/S]	Line 12: credit cards and charge accounts.
OTHER: 0.		[R/S]	Line 13: other interest expenses.
TOTIN= 2,439.		[R/S]*	Line 14: total interest expense.
CNTRB: 0.	560	[R/S]	Line 18: total contributions.
CSLTY: 0.		[R/S]	Line 19: total casualty or theft loss.
DUES : 0.	150	[R/S]	Line 20: union and professional dues.
TXPRP: 0.	40	[R/S]	Line 21: tax preparation fee.
OTHER: 0.	44	[R/S]	Line 22: other miscellaneous deductions.
TOTMS= 234.		[R/S]*	Line 23: total misc. deductions.
GRDED= 6,107.		[R/S]*	Line 24: total deductions.
ZBRAM= 3,400.		[R/S]*	Line 25: zero bracket amount.
DEDCT= 2,707.		[R/S]*	Line 26: adjusted deductions.
			If this program was called from the 1040 program, control will be passed back to that program after this display.
2,707.			Final number left in the X-register.

* [R/S] in this instance is not necessary if a printer is in use.

USER INSTRUCTIONS

COMMENTS	INPUT	KEYSTROKES	DISPLAY
=====			
1. At a minimum, load the following programs: "SA" (schedule A) "O" (misc. routines).		[shift][GTO] .. [shift][GTO] ..	
2. Allocate data registers (minimum 51).		[XEQ] "SIZE" 051	
3. Select an appropriate display format.		[shift][FIX] n	
4. Select either "prompting" (flag 0 set) or "non-prompting" (flag 0 clear) mode. Pressing [XEQ] "P" toggles between these modes.		[XEQ] "P"	
5. Run the Schedule A program.		[XEQ] "SA"	SCHEDULE A
6. This display identifies the program.		[R/S]*	STATS: x
7. Enter one of lines 1-5: your filing status. If this program was called from the 1040 program, this prompt will be skipped.	status	[R/S]	AGI: x
8. Enter line 33 from form 1040: adjusted gross income. If this program was called from the 1040 program, this prompt will be skipped.	AGI	[R/S]	DRUGS: x
9. Enter line 1: medicine and drugs.	drugs	[R/S]	DCTRS: x
10. Input line 2a: doctors, dentists, nurses, hospitals, etc.	doctors	[R/S]	TRNSP: x
11. Input line 2b: transportation.	transport	[R/S]	OTHER: x

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
=====			
12. Input line 2c: other medical expenses.	other exp.	[R/S]	TOTAL= x
13. Output line 3: add lines 3 through 4c.		[R/S]*	5%AGI= x
14. Output of line 4: 5% of line 33 form 1040.		[R/S]*	NETMD= x
15. Output of line 5: line 6 from line 5.		[R/S]*	SLITX: x
16. Enter line 6: state and local income tax.	state tax	[R/S]	RESTX: x
17. Enter line 7: real estate tax.	re. es. tax	[R/S]	SLSTX: x
18. Enter line 8: sales tax.	sales tax	[R/S]	OTHER: x
19. Enter line 9: other taxes.	other tax	[R/S]	TOTTX= x
20. Output of line 10: total tax.		[R/S]*	MORTG: x
21. Input line 11a: home mortgage interest paid.	mort. int.	[R/S]	CDTCD: x
22. Input line 12: credit cards and charge accounts.	credit card	[R/S]	OTHER: x
23. Enter line 13: other interest expenses.	other exp.	[R/S]	TOTIN= x
24. Output of line 14: total interest expense.		[R/S]*	CNTRB: x
25. Enter line 18: total contributions.	contrib.	[R/S]	CSLTY: x
26. Enter line 19: total casualty or theft loss.	casualty	[R/S]	DUES : x
27. Enter line 20: union and professional dues.	dues	[R/S]	TXPRP: x

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
=====			
28. Enter line 21: tax preparation fee.	tax prep.	[R/S]	OTHER: x
29. Enter line 22: other miscellaneous deductions.	other misc.	[R/S]	TOTMS= x
30. Output of line 23: total miscellaneous deductions.		[R/S]*	GRDED= x
31. Output of line 24: gross deductions.		[R/S]*	ZBRAM= x
32. Output of line 25: zero bracket amount.		[R/S]*	DEDCT= x
33. Output of line 26: adjusted deductions. If this program was called from the 1040 program, control will be passed back to that program after this display.		[R/S]*	x
34. Final output is left in the X-register.			

* [R/S] in this instance is not necessary if a printer is attached.

PROGRAM DETAIL -

The Schedule A program is 120 steps and 371 bytes (53 registers) long. It requires one other program: the miscellaneous routines program - 259 bytes, 37 registers. At a minimum, 51 data registers are needed, totalling 141 registers for operation.

The program has two entry points, global labels "SA" and "AS". Label "SA" is the user entry point. When the user desires to run the program independent of the 1040 program, this label is accessed. Label "AS" is the entry point for the 1040 program.

Aside from the flags manipulated by the subroutines called, the program itself manipulates the following flags:

```

flag 06 : set - to disable the storage feature of routine "S"
flag 10 : set - if the program was called via "AS"
          clear - if the program was called via "SA"
flag 12 : set - print double wide (for the printed program
          identifier)
          clear - print single wide

```

The data registers used by the form 1040 program are preserved with the exception of registers 1, 17 and 18. These registers are not modified if the program is called from the 1040 program, but can be if the program is run on its own. The following data registers are used:

```

00 = register index for data manipulation
* 01 = lines 1 through 5, form 1040: filing status
* 17 = line 32, form 1040: adjusted gross income
* 18 = line 34, form 1040: itemized deductions
* 27 = accumulator index

30 = Line 1: medicines and drugs
31 = Line 2a: doctors, dentists, nurses, hospitals, etc.
32 = Line 2b: medical transportation
33 = Line 2c: other medical expenses
* 34 = Line 3: total medical expenses
35 = Line 6: state and local income tax
36 = Line 7: real estate tax

39 = Line 10: total tax
* 40 = Line 11a: home mortgage interest paid
41 = Line 12: credit cards and charge accounts
42 = Line 13: other interest expenses
* 43 = Line 14: total interest expense
* 44 = Line 18: total contributions
* 45 = Line 19: total casualty or theft loss
46 = Line 20: union and professional dues
47 = Line 21: tax preparation fee
48 = Line 22: other miscellaneous deductions
49 = Line 23: total miscellaneous deductions
50 = Line 24: total itemized deductions
    (before zero bracket adjustments)

```

* indicates registers containing values used by other program(s).

PROGRAM LISTING

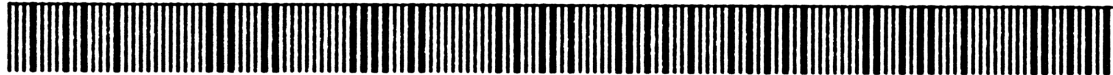
```

01*LBL "SA"
02 CF 10
03 SF 12
04 GTO 00
05*LBL "AS"
06 SF 10
07 CF 12
08 CF 25
09 XEQ "O"
10*LBL 00
11 34
12 "SCHEDUL
E A"
13 XEQ "U"
14 FC? 10
15 XEQ "Z"
16 17
17 STO 00
18 "AGI "
19 FC? 10
20 XEQ "Z"
21 FC? 10
22 ADV
23 30
24 STO 00
25 "DRUGS"
26 XEQ "Y"
27 "DCTRS"
28 XEQ "Y"
29 "TRNSP"
30 XEQ "Y"
31 "OTHER"
32 XEQ "Y"
33 "TOTAL"
34 RCL 34
35 XEQ "X"
36 "5%AGI"
37 RCL 17
38 5
39 %
40 XEQ "X"
41 "NTMED"
42 SF 06
43 XEQ "S"
44 STO 34
45 STO 50
46 ADV
47 2
48 ST- 00
49 39
50 XEQ "T"
51 "SLITX"
52 XEQ "Y"
53 "RESTX"
54 XEQ "Y"
55 "SLSTX"
56 XEQ "Y"
57 "OTHER"
58 XEQ "Y"
59 "TOTTX"
60 RCL 39
61 RND
62 ST+ 50
63 XEQ "X"
64 ADV
65 43
66 XEQ "T"
67 "MORTG"
68 XEQ "Y"
69 "CDTCD"
70 XEQ "Y"
71 "OTHER"
72 XEQ "Y"
73 "TOTIN"
74 RCL 43
75 RND
76 ST+ 50
77 XEQ "X"
78 ADV
79 "CNTRB"
80 XEQ "Z"
81 ST+ 50
82 ADV
83 "CSLTY"
84 XEQ "Z"
85 ST+ 50
86 ADV
87 49
88 XEQ "T"
89 "DUES "
90 XEQ "Y"
91 "TXPRP"
92 XEQ "Y"
93 "OTHER"
94 XEQ "Y"
95 "TOTMS"
96 RCL 49
97 RND
98 ST+ 50
99 XEQ "X"
100 ADV
101 "GRDED"
102 RCL 50
103 XEQ "X"
104 "ZBRAM"
105 XEQ "W"
106 XEQ "X"
107 18
108 STO 00
109 RDN
110 "DEDET"
111 -
112 X<0?
113 CLX
114 STO 18
115 FS? 10
116 RTN
117 XEQ "X"
118 ADV
119 ADV
120 .END.

```

MEDICAL COMP: DEDUCTION
PROGRAM NUMBER: : A

ROW 1: LINES 1-5



ROW 2: LINES 5-9



ROW 3: LINES 9-12



ROW 4: LINES 12-17



ROW 5: LINES 18-21



ROW 6: LINES 22-26



ROW 7: LINES 27-29



ROW 8: LINES 29-32



ROW 9: LINES 32-36



ROW 10: LINES 36-41



ROW 11: LINES 41-45



ROW 12: LINES 45-51



MEDICAL COMP: DEDUCTION
PROGRAM NUMBER: : A

ROW 13: LINES 51-54



ROW 14: LINES 54-57



ROW 15: LINES 57-59



ROW 16: LINES 60-66



ROW 17: LINES 66-69



ROW 18: LINES 69-72



ROW 19: LINES 72-76



ROW 20: LINES 77-80



ROW 21: LINES 81-85



ROW 22: LINES 85-89



ROW 23: LINES 90-93



ROW 24: LINES 93-95



MEDICAL COMP: DEDUCTION
PROGRAM NUMBER: A

ROW 25: LINES 95-101



ROW 26: LINES 101-104



ROW 27: LINES 104-110



ROW 28: LINES 110-117



ROW 29: LINES 117-120



	PROGRAM DESCRIPTION	
--	---------------------	--

SCHEDULE G
INCOME AVERAGING

PURPOSE -

The purpose of this program is to aid the user in Income Averaging using Schedule G.

FEATURES/WARNINGS -

The program is relatively straightforward in its operation. Once begun, it steps through the tax form displaying values it assumes to be correct for each line of the form.

Lines that require input from the user are denoted by a colon (":") between the line name (a string of five characters) and the current line value (some number). For example:

in the display "STATS: 2.",

"STATS" is an abbreviation for "Filing Status",
": " indicates a user-specified value, and
"2." is the current value.

Whenever the user encounters a program display similar to the one just described, its line value may be used as is by pressing [R/S] (to continue the program) or may be changed by keying in some new value (using the numeric keys) and pressing [R/S] (to continue the program). Manual calculations may be performed at this time using the HP-41's stack in order to arrive at the desired value to be input.

Lines that represent values calculated by the program, and which should be copied to the form, are denoted by an equal sign ("=") between the line name and the line value. For example:

in the display "LIN7= 26,853.",

"LIN7" is an abbreviation for "line 7",
"= " indicates a program-calculated value, and
"26,853." is the current line value.

Whenever a program display similar to the one just described is encountered, its line value **MUST NOT** be changed by the user (i.e., by pressing any key other than [R/S]), or the program may perform calculations based on the altered (and incorrect) value.

Not all Schedule G lines have been included in the program. The lines omitted have been so in order to leave space in the computer for other programs from this package. The lines omitted were chosen because of their (hopefully) limited use. If the user finds that he/she requires line 4, 9, or 11, he/she can not use this program to complete the form.

The following Schedule G lines have been omitted:

- * Line 4: income earned outside of the U.S.,
- * Line 9: premature excessive distribution penalty,
Line 10: Line 9 from line 8,
- * Line 11: community property state and separate returns,
Line 12: line 11 from line 10,
Line 13: copy of line 7,
Line 18: copy of line 11,
Line 25: tax on amount on line 8,
Line 26: tax on amount on line 10,
Line 27: line 26 from 25.

- * Assumed to be zero. If this value is not zero, the program cannot be used to complete the form.

The Schedule G program can be run independent of any programs other than the "common routines" program. It may also be "called" from the 1040 program to complete Schedule G in the process of completing form 1040. If the latter occurs, certain line information will be assumed to have been input or calculated by the calling program. In other words, the Schedule G program will run a little differently (omitting certain inputs, treating others as outputs) when called than when run on its own. These differences will be detailed in the User Instructions.

The program works equally well in any display mode (FIX, SCI, ENG, 0 through 9), but best results will be obtained using either FIX 0 or 2 which correspond to whole dollar amounts and dollars- and- cents amounts respectively. Money values may be entered in either fashion regardless of the display mode and will be remembered by the program exactly as they are input. However, the display mode does have an effect on the program's output. All output values will be generated using the input values rounded to the current display mode (viz., an input of 9.25 in FIX 0 will be rounded to 9 before it is used in a calculation whereas the same value in FIX 2 will not be altered), and will cause small but perhaps significant deviations in output.

The program does no error checking! All input values are assumed to be correct, regardless of their values, and are used as such. Erroneous values will usually not halt the program. The program may either be run to completion, or manually halted and restarted. Either way, the valid inputs may be skipped by pressing [R/S] and the invalid inputs corrected by entering the proper value when the line is displayed.

The program is compatible with printers. If a printer is attached, the program assumes it is on. All input values are echoed and all output values are streamed to the printer. With respect to the user, input values are treated in the same fashion regardless of the printer's presence. The output of program generated values, on the other hand, differs dramatically based on the printer's existence. Without a printer, the program halts at each output value in the same fashion that it does when asking for input, thus allowing the user to manually record the value. With a printer, program-generated output does not halt program execution, is not displayed and is recorded on the printer, thus minimizing user interaction.

One feature of the program allows the user to skip all input prompts if the existing values are known to be correct. In this mode, the user without a printer may view only those lines calculated by the program. The user with a printer may rapidly generate an uninterrupted printout of both input and output. This mode is active when the flag 0 annunciator is lit in the display.

SAMPLE PROBLEM

EXAMPLE -

Fill out the form on page 37.

The example assumes:

- * that programs "SG" (Schedule G), "T4" (1984 tax rate schedule), and "O" (common subroutines) have been loaded into memory.
- * there are 57 available data registers (i.e., SIZE has been set to a number greater than 56).
- * the program is in "input mode." This is accomplished by pressing [XEQ] "P" repeatedly (no more than twice is necessary) until the annunciator for flag 0 cannot be seen in the display.
- * all pertinent data registers contain the value 0. This is only for convenience in describing the example and is not required. If the user desires to duplicate the example exactly, and is certain that no important data will be destroyed, the computer's CLRG function may be employed to clear data memory (via [XEQ] "CLRG").
- * the display mode is FIX 0.
- * flags 28 and 29 are set.

SOLUTION

DISPLAY	INPUT	KEYSTROKES	COMMENTS
=====			
SCHEDULE G		[XEQ] "SG"	
STATS: 0.	2	[R/S]*	Identifies the program.
		[R/S]	Lines 1-5 of form 1040: filing status. If this program was called from the 1040 program, this prompt will be skipped.
81INC: 0.	14,225	[R/S]	Line 1: 1981 form 1040, line 34.
82INC: 0.	26,510	[R/S]	Line 2: 1982 form 1040, line 37.
83INC: 0.	16,698	[R/S]	Line 3: 1983 form 1040, line 37.
TOTAL= 57,433.		[R/S]*	Line 4: sum of lines 1, 2, and 3.
LINE6= 19,144.		[R/S]*	Line 5 * 1/3

DISPLAY	INPUT	KEYSTROKES	COMMENTS
LINE7= 26,802.		[R/S]*	140% of line 6
84INC:	40,938	[R/S]	Line 8: 1984 form 1040 line 37.
LIN14= 14,136.		[R/S]*	Line 7 from line 8
LIN15= 3,534.		[R/S]*	Line 14 * 0.25
LIN16= 26,802.		[R/S]*	Copy of line 7
17,19= 30,336.		[R/S]*	Line 15 + line 16
20,21= 4,912.		[R/S]*	Tax on line 19. Note that there is a slight delay before this value is displayed.
LIN22= 4016.		[R/S]*	Tax on line 16. Note that there is a slight delay before this value is displayed.
LIN23= 897.		[R/S]*	Line 22 from line 21.
LIN24= 2689.		[R/S]*	Line 23 * 3.
SGTAX= 7601.		[R/S]*	Line 28: Tax from averaging. Line 20 + line 24.
7601.			The last output is left in the X-register.

* [R/S] in this instance is not necessary if a printer is attached.

**Schedule G
(Form 1040)**Department of the Treasury
Internal Revenue Service**Income Averaging**

▶ See instructions on back. ▶ Attach to Form 1040.

OMB No. 1545-0074

1984
16

Name(s) as shown on Form 1040

Your social security number

Step 1 Add your income from 1981—1983

1981	1	Fill in the amount from your 1981 Form 1040 (line 34) or Form 1040A (line 12). If less than zero, enter zero	1	14,335	
1982	2	Fill in the amount from your 1982 Form 1040 (line 37), Form 1040A (line 16), or Form 1040EZ (line 7). If less than zero, enter zero	2	26,510	
1983	3	Fill in the amount from your 1983 Form 1040 (line 37), Form 1040A (line 19), or Form 1040EZ (line 7). If less than zero, enter zero	3	16,698	
Total	4	Fill in all income less deductions earned outside of the U.S. or within U.S. possessions and excluded for 1981 through 1983 (include housing exclusion in 1982 and 1983)	4		
	5	Add lines 1 through 4	5	57,543	

Step 2 Figure your averageable income

6	Divide the amount on line 5 by three (3)	6	19,181	
7	Multiply the amount on line 6 by 140% (1.4)	7	26,853	
8	Fill in your taxable income for 1984 from Form 1040, line 37.	8	40,938	
9	If you received a premature or excessive distribution subject to a penalty under section 72, see instructions	9		
10	Subtract line 9 from line 8.	10		
11	If you live in a community property state and are filing a separate return, see instructions.	11		
12	Subtract line 11 from line 10. If less than zero, enter zero	12		
13	Write in the amount from line 7 above.	13		
14	Subtract line 13 from line 12. This is your averageable income. If this line is \$3,000 or less, do not complete the rest of this form	14	14,085	

Step 3 Figure your tax

15	Multiply the amount on line 14 by 25% (.25)	15	3,521	
16	Write in the amount from line 7 above.	16	26,853	
17	Add lines 15 and 16	17	30,374	
18	Write in the amount from line 11 above.	18		
19	Add lines 17 and 18	19	30,374	
20	Tax on amount on line 19 (from Tax Rate Schedule X, Y, or Z)	20	4,923	
21	Tax on amount on line 17 (from Tax Rate Schedule X, Y, or Z)	21	4,923	
22	Tax on amount on line 16 (from Tax Rate Schedule X, Y, or Z)	22	4,028	
23	Subtract line 22 from line 21	23	895	
24	Multiply the amount on line 23 by 3 If you have no entry on line 9, skip lines 25 through 27 and go to line 28.	24	2,685	
25	Tax on amount on line 8 (from Tax Rate Schedule X, Y, or Z)	25		
26	Tax on amount on line 10 (from Tax Rate Schedule X, Y, or Z)	26		
27	Subtract line 26 from line 25.	27		
28	Add lines 20, 24, and 27. Write the result here and on Form 1040, line 38 if less than the tax figured using the tax rate schedules or table. Also, check the Schedule G box	28	7,608	

For Paperwork Reduction Act Notice, see Form 1040 Instructions.

Schedule G (Form 1040) 1984

USER INSTRUCTIONS

COMMENTS	INPUT	KEYSTROKES	DISPLAY
=====			
1. At a minimum, load the following programs: "SG" (form 1040) "T4" ('84 tax tables) or "T5" ('85 tax tables), "O" (misc. routines).		[shift][GTO] .. [shift][GTO] .. [shift][GTO] ..	
2. Allocate data registers (minimum 57).		[XEQ] "SIZE" 057	
3. Select an appropriate display format.		[shift][FIX] n	
4. Select either "prompting" (flag 0 set) or "non-prompting" (flag 0 clear) mode. Pressing [XEQ] "P" toggles between these modes.		[XEQ] "P"	
5. Run the Schedule G program.		[XEQ] "SG" SCHEDULE G	
6. This display identifies the program.		[R/S]*	STATS: x
7. Enter one of lines 1-5 from your form 1040: this is your filing status. If this program was called from the 1040 program, this prompt will be skipped.	status	[R/S]	81INC: x
8. Input line 1: 1981 form 1040, line 34.	1981 income	[R/S]	82INC: x
9. Enter line 2: 1982 form 1040, line 37.	1982 income	[R/S]	83INC: x
10. Enter line 3: 1983 form 1040, line 37	1983 income	[R/S]	TOTAL= x
11. Output of line 5: sum of line 1, 2, and 3.		[R/S]*	LINE6= x.
12. Output of line 6: Line 5 * 1/3.		[R/S]*	LINE7= x

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
=====			
13. Output of line 7: Line 6 * 140%.		[R/S]*	84INC: x
14. Enter line 8: form 1040, line 37.	1984 income	[R/S]	LIN14= x
15. Output of line 14: Line 13 from line 12.		[R/S]*	LIN15= x
16. If line 14 is not greater than \$3,000, "NG" is displayed rather than line 15. If this is the case, you do not qualify for income averaging and the program terminates. If the program was called from the 1040 program, control is passed back to that program at this time.			
17. Output of line 15: line 14 * 0.25.		[R/S]*	LIN16: x
18. Output of line 16: copy of line 7.		[R/S]*	17,19= x
19. Output of lines 17 and 19: line 15 + line 16.		[R/S]*	20,21= x
20. Output of lines 20 and 21: tax on line 19. Note that there is a slight delay before this value is displayed.		[R/S]*	LIN22= x
21. Output of line 22: tax on line 16. Note that there is a slight delay before this value is displayed.		[R/S]*	LIN23= x
22. Output of line 23: Line 22 from line 21.		[R/S]*	LIN24= x
23. Output of line 24: Line 23 * 3.		[R/S]*	SGTAX= x

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
=====			
24. Output of line 28: Schedule G tax. line 20 + line 24.		[R/S]*	LOTAX= x
25. If the program was called from the 1040 program, "SGTAX" is compared with the tax on line 38 of form 1040. The lower of the two values is then displayed and returned to the 1040 program. Control passes back to the 1040 program at this time. If not called from 1040, the program terminates here with a superfluous number in the X- register.		[R/S]*	x

* [R/S] in this instance is not necessary if a printer is attached.

PROGRAM DETAIL -

The Schedule G program is 104 steps and 294 bytes (42 registers) long. It requires two other programs: the miscellaneous routines program at 259 bytes (37 registers) and one of the two tax rate programs at 374 and 431 bytes (53.4 and 61.6 registers). At a minimum, 57 data registers are needed, totalling 189.4 or 197.6 registers for operation.

The program has two entry points, global labels "SG" and "GS". Label "SG" is the user entry point. When the user desires to run the program independent of the 1040 program, this label is accessed. Label "GS" is the entry point for the 1040 program.

Aside from the flags manipulated by the subroutines called, the program itself manipulates the following flags:

flag 04 : set - if the program was called via "GS"
 clear - if the program was called via "SG"
flag 06 : set - to disable the sum feature of routine "S"
flag 12 : set - print double wide (for the printed program
 identifier)
 clear - print single wide

The data registers used by the form 1040 program are preserved with the exception of registers 1, 21 and 22. The first two registers are not modified if the program is called from the 1040 program, but can be if the program is run on its own. Register 22 is only modified if the program is called from the 1040 program and its value is greater than the calculated Schedule G tax. The following data registers are used:

- 00 = register index for data manipulation
- * 01 = lines 1 through 5, form 1040: filing status
- * 21 = line 37, form 1040: taxable income
- * 22 = line 38, form 1040: tax
- 27 = accumulator index
- 52 = line 1: 1981 form 1040 line 34
- 53 = line 2: 1982 form 1040 line 37
- 54 = line 3: 1981 form 1040 line 37
- 55 = line 5: sum of lines 1, 2, 3, and 4
- line 6: 1/3 of line 5
- line 7: 140% of line 6
- 56 = lines 20,21: tax on amount on lines 19 & 17
- line 28: Schedule G tax

* indicates registers containing values used by other program(s).

PROGRAM LISTING

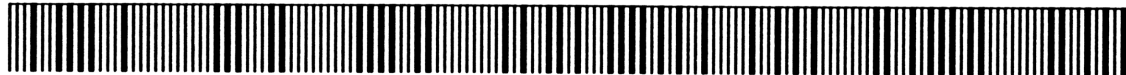
```

01*LBL "SG"
02 CF 04
03 SF 12
04 GTO 10
05*LBL "GS"
06 SF 04
07 CF 12
08 CF 25
09 XEQ "O"
10*LBL 10
11 55
12 "SCHEDUL
E G"
13 XEQ "U"
14 FC? 04
15 XEQ "Z"
16 52
17 STO 00
18 "81INC"
19 XEQ "Y"
20 "82INC"
21 XEQ "Y"
22 "83INC"
23 XEQ "Y"
24 "TOTAL"
25 RCL 55
26 XEQ "V"
27 ADV
28 "LINE6"
29 3
30 /
31 XEQ "V"
32 "LINE7"
33 1.4
34 *
35 RND
36 STO 55
37 XEQ "V"
38 "84INC"
39 21
40 STO 00
41 RCL 21
42 FS? 04
43 XEQ "X"
44 FC? 04
45 XEQ "Z"
46 "LIN14"
47 RCL 55
48 -
49 XEQ "V"
50 ADV
51 "NG"
52 3 E3
53 X<>Y
54 X<=Y?
55 AVIEW
56 X<=Y?
57 GTO 01
58 "LIN15"
59 4
60 /
61 XEQ "V"
62 "LIN16"
63 RCL 55
64 XEQ "V"
65 "17,19"
66 +
67 XEQ "V"
68 XEQ "R"
69 "20,21"
70 RND
71 STO 56
72 XEQ "V"
73 RCL 55
74 XEQ "R"
75 "LIN22"
76 XEQ "V"
77 "LIN23"
78 RCL 56
79 X<>Y
80 -
81 XEQ "V"
82 "LIN24"
83 3
84 *
85 XEQ "V"
86 "SGTAX"
87 ST+ 56
88 RCL 56
89 XEQ "V"
90 FC? 04
91 GTO 01
92 "LOTAX"
93 RCL 56
94 RCL 22
95 X>Y?
96 X<>Y
97 STO 22
98 XEQ "V"
99*LBL 01
100 ADV
101 FS?C 04
102 XEQ "O"
103 ADV
104 .END.

```

INCOME AVERAGING
PROGRAM NUMBER: 1SG

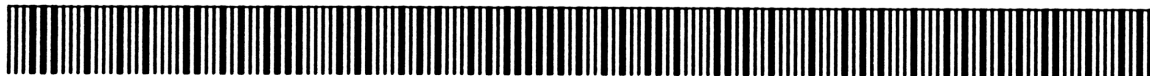
ROW 1: LINES 1-5



ROW 2: LINES 5-9



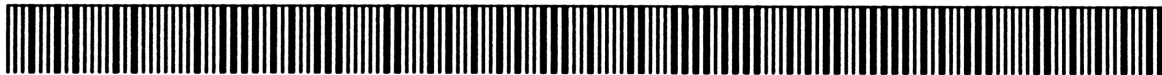
ROW 3: LINES 9-12



ROW 4: LINES 12-17



ROW 5: LINES 18-20



ROW 6: LINES 20-23



ROW 7: LINES 23-27



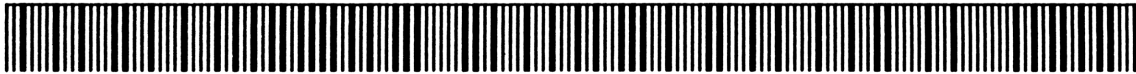
ROW 8: LINES 28-32



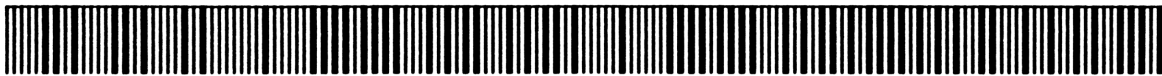
ROW 9: LINES 32-37



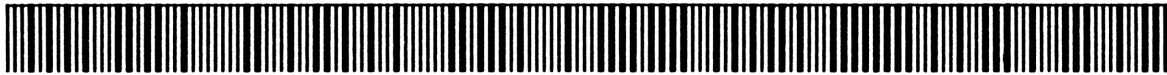
ROW 10: LINES 37-42



ROW 11: LINES 42-46



ROW 12: LINES 46-52



INCOME AVERAGING
PROGRAM NUMBER: : SG

ROW 13: LINES 52-58



ROW 14: LINES 58-63



ROW 15: LINES 63-67



ROW 16: LINES 67-71



ROW 17: LINES 72-75



ROW 18: LINES 75-79



ROW 19: LINES 80-85



ROW 20: LINES 85-89



ROW 21: LINES 89-93



ROW 22: LINES 93-101



ROW 23: LINES 101-104



PROGRAM DESCRIPTION

SCHEDULE W DEDUCTION FOR A MARRIED COUPLE WHEN BOTH WORK

PURPOSE-

The purpose of this program is to aid the user in computing the married couple deduction using Schedule W.

FEATURES/WARNINGS-

The program is relatively straightforward in its operation. Once begun, it steps through the tax form displaying values it assumes to be correct for each line of the form.

Lines that require input from the user (input displays) are denoted by a colon (":") between the line name (a string of five characters) and the current line value (some number). For example:

in the display "WAGES: 34,976.":

"WAGES" is an abbreviation for "Wages, salaries, tips, etc.",
": " indicates a user-specified (input) value, and
"34,976" is the current line value.

Whenever the user encounters an input display, the displayed line value may be used without change by pressing [R/S] (to continue the program) or may be changed by keying in some new value (using the numeric keys) and pressing [R/S] (to continue the program). Manual calculations may be performed at this time using the HP-41's stack in order to arrive at the desired input value.

Lines that represent values calculated by the program (output displays), and which should be copied to the form, are denoted by an equal sign ("=") between the line name and the line value. For example:

in the display "LINE6= 3,480.":

"LINE6" is an abbreviation for "Line 6",
"=" indicates a program-calculated (output) value, and
"3,480." is the current line value.

Whenever the user encounters an output display, the program is continued by pressing [R/S] (unless the end of the program has been reached). The display MUST NOT be changed by the user (i.e., by pressing any key other than [R/S]), or the program may perform calculations using the altered (and incorrect) value.

The program works equally well in any display mode (FIX, SCI, ENG, 0 through 9) but best results will be obtained using either FIX 0 or FIX 2, which correspond to whole dollar amounts and

dollars-and-cents amounts respectively. Money values may be entered in either fashion regardless of the display mode and will be remembered by the program exactly as they are input. However, the display mode does have an effect on the program's output. All output values will be generated using the input values rounded to the current display mode (viz., an input of 9.25 in FIX 0 will be rounded to 9 before it is used in a calculation whereas the same value in FIX 2 will not be altered), and will cause small but perhaps significant deviations in output. The fact that the values are retained exactly as input allows the user to rerun the program with no new inputs in another display mode and quickly see the difference between whole dollar and dollars-and-cents input.

The program does no error checking! All input values are assumed to be correct, regardless of their values, and are used as such. Erroneous values will usually not halt the program. The program may be run to completion, or manually halted and restarted. Either way, the valid inputs may be skipped by pressing [R/S] and invalid inputs may be corrected by entering the proper value when the line is displayed.

The program is compatible with printers. If a printer is attached, the program assumes that it is on. All input values are echoed and all output values are streamed to the printer. With respect to the user, input values are treated in the same fashion regardless of the printer's existence. The output of program-generated values, on the other hand, differs dramatically based on the printer's existence. Without a printer, the program halts at each output value in the same fashion that it does when asking for input, thus allowing the user to manually record the value. With a printer, program-generated output does not halt program execution, is not displayed and is recorded on the printer, thus minimizing user interaction and speeding program execution.

One feature of the program allows the user to skip all input prompts if the existing values are known to be correct. In this mode, the user without a printer may view only those lines calculated by the program. The user with a printer may rapidly generate an uninterrupted printout of both input and output. This mode is active when the flag 0 annunciator is lit in the display.

SAMPLE PROBLEM

EXAMPLE -

Compute the deduction for a married couple when both work.

Fill out the form on page 50.

The example assumes:

- * that programs "SW" (Schedule W) and "O" (common subroutines) have been loaded into memory.
- * there are 41 available data registers (i.e., SIZE has been set to a number greater than 40.)
- * the program is in "input mode." This is accomplished by pressing [XEQ] "P" repeatedly (no more than twice is necessary) until the annunciator for flag 0 cannot be seen in the display.
- * all pertinent data registers contain the value 0. This is only for convenience in describing the example and is not required. If the user desires to duplicate the example exactly, and is certain that no important data will be destroyed, the computer's CLRG function may be employed to clear data memory (via [XEQ] "CLRG").
- * the display mode is FIX 0.
- * flags 28 and 29 are set (the HP-41 decimal and digital grouping

SOLUTION

DISPLAY	INPUT	KEYSTROKES	COMMENTS
=====			
SCHEDULE W		[XEQ] "SW"	Identifies the program.
TAXPAYER 1		[R/S]*	Signifies that the items to follow relate to taxpayer 1.
WAGES: 0.	34976.	[R/S]	Line 1a, wages, salaries, tips, etc.
B,F,P: 0.	0	[R/S]	Line 2a, business, farm, and partnership income.
TOTAL= 34,976.		[R/S]*	Line 3a, total of lines 1a and 2a.
ADJ : 0.	2000	[R/S]	Line 4a, adjustments to included in line 3a.

DISPLAY	INPUT	KEYSTROKES	COMMENTS
NET = 32,976.		[R/S]*	Line 5a, line 3a less line 4a.
TAXPAYER 2		[R/S]*	Signifies that the following items relate to taxpayer 2.
WAGES: 0.	3480	[R/S]	Line 1b, wages, salaries, tips, etc.
B,F,P: 0.	0	[R/S]	Line 2b, business, farm, and partnership income.
TOTAL= 3,480.		[R/S]*	Line 3b, total of lines 1b and 2b.
ADJ : 0.	0	[R/S]	Line 4b, adjustments to income included in line 3b.
NET = 3,480.		[R/S]*	Line 5b, line 3b less 4b.
LINE6= 3,480.		[R/S]*	Line 6, smaller of line 5a, 5b, and 30,000.
LINE8= 348.		[R/S]*	Line 8, married couple deduction. This amount is stored in Register 15 for use by the Form 1040 prgm.
348.			The last output is left in the X-register.

* [R/S] in this instance is not necessary if a printer is in use.

Schedule W
(Form 1040)

 Department of the Treasury
 Internal Revenue Service

Deduction for a Married Couple
When Both Work

 ▶ For Paperwork Reduction Act Notice, see Form 1040 Instructions.
 ▶ Attach to Form 1040.

OMB No. 1545-0074

1984
20

Names as shown on Form 1040

Your social security number

Step 1 Figure your earned income

	(a) You		(b) Your spouse	
1 Wages, salaries, tips, etc., from Form 1040, line 7. (Do not include nondisability pensions or annuities.)	1	34,976	1	3,480
2 Net profit or (loss) from self-employment (from Schedules C and F (Form 1040), Schedule K-1 (Form 1065), and any other taxable self-employment or earned income)	2		2	
3 Add lines 1 and 2. This is your total earned income.	3	34,976	3	3,480

Step 2 Figure your qualified earned income

4 Adjustments from Form 1040, lines 25, 26a, 27, and any repayment of sub-pay included on line 31. (See instructions below.)	4		4	
5 Subtract line 4 from line 3. This is your qualified earned income. (If the amount in column (a) or (b) is zero (-0-) or less, stop here. You may not take this deduction.)	5	34,976	5	3,480

Step 3 Figure your deduction

6 Compare the amounts in columns (a) and (b) of line 5. Write the smaller amount here. (Write either amount if 5(a) and 5(b) are exactly the same.) Do not write more than \$30,000	6	3,480
7 Percentage used to figure the deduction (10%)	7	x .10
8 Multiply the amount on line 6 by the percentage on line 7. This is the amount of your deduction. Write the answer here and on Form 1040, line 30 ▶	8	348

Instructions

Complete this schedule and attach it to your Form 1040 if you take the deduction for a married couple when both work. You may take the deduction if both you and your spouse:

- work and have qualified earned income, and
- file a joint return, and
- do not file **Form 2555** to exclude income or to exclude or deduct certain housing costs, and
- do not file **Form 4563** to exclude income.

There are three steps to follow in figuring the deduction on Schedule W.

Step 1 (lines 1, 2, and 3).—Figure earned income separately for yourself and your spouse.

Step 2 (lines 4 and 5).—Figure qualified earned income separately for yourself and your spouse by subtracting certain adjustments from earned income.

Step 3 (lines 6, 7, and 8).—Figure the deduction based on the **smaller of**:

- the qualified earned income entered in column (a) or (b) of line 5, whichever is less, **OR**
- \$30,000.

Earned income.—This is generally income you receive for services you provide. It includes wages, salaries, tips, commissions, certain disability income, sub-pay, etc. (from Form 1040, line 7). It also includes income earned from self-employment (from Schedules C and F of Form 1040 and Schedule K-1 of Form 1065), and net earnings and gains (other than capital gains) from the disposition, transfer, or licensing of property that you created. Earned income does not include interest, dividends, social security or tier 1 railroad retirement benefits, IRA distributions, unemployment compensation, deferred compensation, or nontaxable income. It also does not include any amount your spouse paid you.

Caution: Do not consider community property laws in figuring your earned income.

Qualified earned income.—This is the amount on which the deduction is based. Figure it by subtracting certain adjustments from earned income.

These adjustments (and the related lines on Form 1040) are:

- Employee business expenses (from line 25).
- Payments to an IRA (from line 26a).
- Payments to a Keogh plan (from line 27).
- Repayment of supplemental unemployment benefits (sub-pay) included in the total on line 31. See the instructions on repayment of sub-pay on page 12 of the Form 1040 Instructions.

Enter the total of any adjustments that apply to your or your spouse's earned income in the appropriate column of line 4.

Example.—You earned a salary of \$20,000 and had \$3,000 of employee business expenses (line 25 of Form 1040). Your spouse earned \$17,000 and put \$1,000 into an IRA (line 26a of Form 1040). Your qualified earned income is \$17,000 (\$20,000 minus \$3,000) and your spouse's is \$16,000 (\$17,000 minus \$1,000). Because your spouse's qualified earned income is less than yours, the deduction is figured on your spouse's income. Therefore, the deduction is \$1,600 (\$16,000 x .10).

USER INSTRUCTIONS

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
=====			
1. At a minimum, load the following programs: "SW" (Schedule W) "O" (misc. routines).		[shift] [GTO] .. [shift] [GTO] ..	
2. Allocate data registers (minimum 41).		[XEQ] "SIZE" 041	
3. Select an appropriate display format.		[shift] [FIX] n	
4. Select either "prompting" (flag 0 set) or "non-prompting" (flag 0 clear) mode. Pressing [XEQ] "P" toggles between these modes.		[XEQ] "P"	
5. Run the Schedule W program.		[XEQ] "SW"	SCHEDULE W
6. This display identifies the program.		[R/S]*	TAXPAYER 1
7. This display signifies that the items to follow relate to the taxpayer 1.		[R/S]*	WAGES: x
8. Enter line 1a, wages, salaries, tips, etc. wages		[R/S]	B,F,P: x
9. Enter line 2a: income from business, farming, and partnerships. business inc.		[R/S]	TOTAL= x
10. Output of line 3a: total of lines 1a & 2a.		[R/S]*	ADJ :x
11. Enter line 4a: adjustments of income on line 3a. adjustments		[R/S]	NET = x
12. Output of line 5a: line 3a less line 4a.		[R/S]*	TAXPAYER 2
13. This display signifies that the items to follow relate to the taxpayer 2.		[R/S]*	WAGES: x
14. Enter line 1b, wages, salaries, tips, etc. wages		[R/S]	B,F,P: x

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
=====			
15. Enter line 2b: income from business, farming, and partnerships.	business inc.	[R/S]	TOTAL= x
16. Output of line 3b: total of lines 1b & 2b.		[R/S]*	ADJ :x
17. Enter line 4b: adjustments of income on line 3b.	adjustments	[R/S]	NET = x
18. Output of line 5b: line 3b less line 4b.		[R/S]*	LINE6= x
19. Output of line 6: Smaller of lines 5a and 5b, but not more than 30,000.		[R/S]*	LINE8: x
20. Output of line 8: married couple deduction.		[R/S]*	x
21. Final output is left in the X-register.			
* [R/S], in this instance, is not necessary if a printer is in use.			

PROGRAM DETAIL-

The schedule W program is 60 steps and 161 bytes (46.6 registers) long. It requires one other program: the miscellaneous routines program (235 bytes or 37 registers). At a minimum, 41 data registers are needed, for a total of 124.6 registers needed for operation.

The program has one entry point, label "SW".

Aside from the flags manipulated by the subroutines called, the program itself manipulates the following flags:

flag 12: set - print double wide (for the printed program
 identifier)
 clear - print single wide

The data registers used by the form 1040 program are preserved with the exception of register 3 and 15. The following registers are used:

- 00 = register index for manipulation
- *03 = Line 8, form 1040: wages
- *15 = Line 27, form 1040: married couple deduction
- 27 = accumulator index

- 31 = Line 1a: wages, salaries, and tips, taxpayer 1
- 32 = Line 2a: business, farm, and partnership income, taxpayer 1
- 33 = Line 3a: total of lines 1a and 2a
- 34 = Line 4a: adjustments taken in respect of lines 1a and 2a, taxpayer 1
- 35 = Line 5a: net amount after subtracting adjustments, taxpayer 1

- 36 = Line 1b: wages, salaries, and tips, taxpayer 2
- 37 = Line 2b: business, farm, and partnership income, taxpayer 2
- 38 = Line 3b: total of lines 1b and 2b
- 39 = Line 4b: adjustments taken in respect of lines 1b and 2b, taxpayer 2
- 40 = Line 5b: net amount after subtracting adjustments, taxpayer 2

- * indicates registers containing values used by other program(s).

	PROGRAM LISTING	
--	-----------------	--

```

01*LBL "SW"          51 "TOTAL"
02*LBL 00            52 XEQ "X"
03 "SCHEDUL         53 "ADJ  "
E W"                54 XEQ "Z"
04 SF 12            55 "NET  "
05 33               56 XEQ "S"
06 XEQ "U"          57 .END,
07 31
08 STO 00
09 "1"
10 XEQ 01
11 ADV
12 38
13 XEQ "T"
14 "2"
15 XEQ 01
16 ADV
17 RCL 31
18 RCL 36
19 +
20 STO 03
21 X<>Y
22 "LINE6"
23 RCL 35
24 3 E4
25 X<Y?
26 X<>Y
27 RDN
28 X>Y?
29 X<>Y
30 XEQ "V"
31 "LINE8"
32 .1
33 *
34 RND
35 STO 15
36 XEQ "V"
37 ADV
38 ADV
39 RTN
40 GTO 00
41*LBL 01
42 ASTO T
43 "TAXPAYE
R "
44 ARCL T
45 AVIEW
46 "WAGES"
47 XEQ "Y"
48 "B,F,P"
49 XEQ "Y"
50 RCL IND
00

```

MARRIED CPL DEDUCTION
PROGRAM NUMBER: SW

ROW 1: LINES 1-3



ROW 2: LINES 3-7



ROW 3: LINES 7-13



ROW 4: LINES 14-21



ROW 5: LINES 22-26



ROW 6: LINES 27-32



ROW 7: LINES 32-41



ROW 8: LINES 42-44



ROW 9: LINES 44-48



ROW 10: LINES 48-51



ROW 11: LINES 51-54



ROW 12: LINES 54-57



PROGRAM DESCRIPTION

1982 AND 1983 TAX RATE SCHEDULES

PURPOSE -

The purpose of these programs is to aid the user in calculating tax on income and to provide the same function for the 1040 and Schedule G programs.

FEATURES/WARNINGS -

Lines that require input from the user are denoted by a colon (":") between the line name (a string of five characters) and the current line value (some number). For example:

in the display "STATS: 2.",

"STATS" is an abbreviation for "Filing Status",
": " indicates a user-specified value, and
"2." is the current value.

Whenever the user encounters a program display similar to the one just described, its line value may be used as is by pressing [R/S] (to continue the program) or may be changed by keying in some new value (using the numeric keys) and pressing [R/S] (to continue the program). Manual calculations may be performed at this time using the HP-41's stack in order to arrive at the desired value to be input.

Lines that represent values calculated by the program, and which should be copied to the form, are denoted by an equal sign ("=") between the line name and the line value. For example:

in the display "TX84 = 5,419.",

"TX84 " is an abbreviation for "1982 tax",
"= " indicates a program-calculated value, and
"5,419." is the current line value.

Whenever a program display similar to the one just described is encountered, its line value MUST NOT be changed by the user (i.e., by pressing any key other than [R/S]), or the program may perform calculations based on the altered (and incorrect) value.

These programs calculate tax according to tax rate schedules X, Y, and Z, without adjustment for tax tables. When these programs are called by the form 1040 program, the adjustment to the amount of taxable income necessary to produce the amount of tax listed in the tax tables is automatically made by the 1040 program when required.

The program works equally well in any display mode (FIX, SCI, ENG, 0 through 9), but best results will be obtained using either FIX 0 or 2 which correspond to whole dollar amounts and dollars- and- cents amounts respectively. Money values may be entered in either fashion regardless of the display mode and will be remembered by the program exactly as they are input. However, the display mode does have an effect on the program's output. All output values will be generated using the input values rounded to the current display mode (viz., an input of 9.25 in FIX 0 will be rounded to 9 before it is used in a calculation whereas the same value in FIX 2 will not be altered), and will cause small but perhaps significant deviations in output.

The tax rate schedule programs can be run independent of any programs other than the "common routines" program. They may also be "called" from the 1040 and Schedule G programs to complete. If the latter occurs, certain line information will be assumed to have been input or calculated by the calling program. In other words, the tax rate programs will run differently (omitting all inputs and generating no output displays) when called than when run on their own. These differences will be detailed in the User Instructions.

The program does no error checking! All input values are assumed to be correct, regardless of their values, and are used as such. Erroneous values will usually not halt the program. The program may either be run to completion, or manually halted and restarted. Either way, the valid inputs may be skipped by pressing [R/S] and the invalid inputs corrected by entering the proper value when the line is displayed.

The program is compatible with printers. If a printer is attached, the program assumes it is on. All input values are echoed and all output values are streamed to the printer. With respect to the user, input values are treated in the same fashion regardless of the printer's presence. The output of program generated values, on the other hand, differs dramatically based on the printer's existence. Without a printer, the program halts at each output value in the same fashion that it does when asking for input, thus allowing the user to manually record the value. With a printer, program-generated output does not halt program execution, is not displayed and is recorded on the printer, thus minimizing user interaction.

One feature of the program allows the user to skip all input prompts if the existing values are known to be correct. In this mode, the user without a printer may view only those lines calculated by the program. The user with a printer may rapidly generate an uninterrupted printout of both input and output. This mode is active when the flag 0 annunciator is lit in the display.

SAMPLE PROBLEM

EXAMPLE -

With a filing status of 2, calculate the tax table tax on \$23,456.00.

The example assumes:

- * that programs "T4" (1984 tax rate schedule) and "O" (common subroutines) have been loaded into memory.
- * there are 29 available data registers (i.e., SIZE has been set to a number greater than 28).
- * the program is in "input mode." This is accomplished by pressing [XEQ] "P" repeatedly (no more than twice is necessary) until the annunciator for flag 0 cannot be seen in the display.
- * all pertinent data registers contain the value 0. This is only for convenience in describing the example and is not required. If the user desires to duplicate the example exactly, and is certain that no important data will be destroyed, the computer's CLRG function may be employed to clear data memory (via [XEQ] "CLRG").
- * the display mode is FIX 0.
- * flags 28 and 29 are set (the HP41 decimal point and digit grouping flags).

SOLUTION

DISPLAY	INPUT	KEYSTROKES	COMMENTS
=====			
84 TAX RATE		[XEQ] "T4"	Identifies the program. Lines 1-5 of form 1040: filing status. If this program was called from another program, this prompt will be skipped.
STATS: 0.	2	[R/S]*	
		[R/S]	
TXABL: 0.	32147	[R/S]	Line 37 form 1040. If this program was called from another program, this prompt will be skipped.
TX84 = 5,419.		[R/S]*	tax
5,419.			Final output is left in the X-register

* [R/S] in this instance is not necessary if a printer is in use.

USER INSTRUCTIONS

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
=====			
1. At a minimum, load the following programs: "T4" ('84 tax tables) or "T5" ('85 tax tables) "O" (misc. routines).		[shift][GTO] .. [shift][GTO] ..	
2. Allocate data registers (minimum 29).		[XEQ] "SIZE" 029 (or greater)	
3. Select an appropriate display format.		[shift][FIX] n	
4. Select either "prompting" (flag 0 set) or "non-prompting" (flag 0 clear) mode. Pressing [XEQ] "P" toggles between these modes.		[XEQ] "P"	
5. Run the tax rate program.		[XEQ] "T4" 84 TAX RATE or [XEQ] "T5" 85 TAX RATE	
6. This display identifies the program. [R/S]* STATS: x			
7. Enter one of lines 1-5: your filing status. If this program was called from another program, this prompt will be skipped.	status	[R/S]	TXABL: x
8. Input line 37, form 1040. If the program was called from another program, this prompt will be skipped.	line 37	[R/S]	TX84 = x or TX85 = x
9. Output of tax. If not called from another program this display will be skipped.)		[R/S]*	x
10. A superfluous value will be left in the X-register.			

* [R/S] in this instance is not necessary if a printer is attached.

PROGRAM DETAIL -

The tax rate 1984 program is 133 steps and 374 bytes (53.4 registers) long. It requires one other program: the miscellaneous routines program at 259 bytes (37.0 registers). At a minimum, 29 data registers are needed, totalling 112.6 registers.

The tax rate 1985 program is 142 steps and 431 bytes (61.6 registers) long. It requires one other program: the miscellaneous routines program at 259 bytes. At a minimum, 29 data registers are needed, totalling 116.0 registers.

The programs have two entry points, global labels "T4" or "T5" and "R". Labels "T4" and "T5" are user entry points. When the user desires to run the programs independent of another program, these labels are accessed. Label "R" is the entry point for calling programs.

Aside from the flags manipulated by the subroutines called, the programs themselves manipulate the following flags:

```
flag 09 : set - status <> 3
          clear - status = 3
flag 10 : set - if the program was called via "R"
          clear - if the program was called via "T4" or "T5"
flag 12 : set - print double wide (for the printed program
          identifier)
          clear - print single wide
```

The data registers used by the form 1040 program are preserved with the exception of registers 1, 21 and 27. The first two registers are not modified if the programs are called from another program, but can be if the programs are run on their own. Register 27 is always destroyed by the programs. The following data registers are used:

```
00 = register index for data manipulation
01 = lines 1 through 5, form 1040: filing status
21 = line 37, form 1040: taxable income
27 = tax accumulator
28 = number from which tax bracket multipliers are retrieved
```

PROGRAM LISTING

<pre> 01*LBL "T4" 02 SF 12 03 "84 TAX RATE" 04 CLX 05 XEQ "U" 06 CF 10 07 XEQ "Z" 08 21 09 STO 00 10 "TXABL" 11 XEQ "Z" 12 GTO 00 13*LBL "R" 14 SF 10 15*LBL 00 16 ENTER↑ 17 CLX 18 STO 27 19 RDN 20 SF 09 21 1 E2 22 / 23 GTO IND 01 24*LBL 01 25 .2311100 1 26 ENTER↑ 27 1.112112 23 28 XEQ 11 29 .2023212 1 30 XEQ 12 31 .3253535 374 32 ENTER↑ 33 .3444462 34 XEQ 11 35 138 36 XEQ 09 37 265 38 XEQ 09 39 GTO 10 40*LBL 03 41 CF 09 42 2 43 * 44*LBL 02 45*LBL 05 46 .3421214 3 </pre>	<pre> 47 ENTER↑ 48 1.112224 335 49 XEQ 11 50 .4142445 353 51 XEQ 12 52 1.06 53 ENTER↑ 54 .54341 55 XEQ 11 56 142 57 XEQ 09 58 256 59 XEQ 09 60 238 61 XEQ 09 62 530 63 XEQ 09 64 GTO 10 65*LBL 11 66 STO 28 67 RDN 68*LBL 12 69 RDN 70 X<=0? 71 RTN 72 R↑ 73 1 E2 74 * 75 FRC 76 X<>Y 77 LASTX 78 INT 79*LBL 09 80 - 81 X>0? 82 GTO 06 83 RDN 84 CLX 85 RTN 86*LBL 06 87 10 88 ST+ 28 89 CLX 90 RCL 28 91 FRC 92 X<> 28 93 INT 94 % 95 ST+ 27 96 RDN 97 X<>Y </pre>	<pre> 98 X>0? 99 GTO 12 100 X<>Y 101 RTN 102*LBL 04 103 .23212 104 12312444 105 XEQ 11 106 .3132325 353 107 XEQ 12 108 .53 109 ENTER↑ 110 .37332 111 XEQ 11 112 106 113 XEQ 09 114 159 115 XEQ 09 116 212 117 XEQ 09 118 265 119 XEQ 09 120*LBL 10 121 RCL 27 122 50 123 FS?C 09 124 ST+ X 125 * 126 "TX84" 127 FS?C 10 128 RTN 129 "F " 130 XEQ "X" 131 ADV 132 ADV 133 .END. </pre>
--	---	--

T4 84 TAX SCHEDULE
PROGRAM NUMBER: T4

ROW 1: LINES 1-3



ROW 2: LINES 3-6



ROW 3: LINES 7-11



ROW 4: LINES 11-16



ROW 5: LINES 17-24



ROW 6: LINES 25-27



ROW 7: LINES 27-29



ROW 8: LINES 29-31



ROW 9: LINES 31-33



ROW 10: LINES 33-37



ROW 11: LINES 37-44

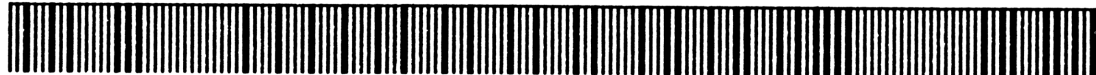


ROW 12: LINES 45-48



T4 84 TAX SCHEDULE
PROGRAM NUMBER: T4

ROW 13: LINES 48-50



ROW 14: LINES 50-51



ROW 15: LINES 52-55



ROW 16: LINES 55-59



ROW 17: LINES 60-64



ROW 18: LINES 64-73



ROW 19: LINES 74-85



ROW 20: LINES 86-94



ROW 21: LINES 95-103



ROW 22: LINES 103-105



ROW 23: LINES 105-106



ROW 24: LINES 107-110



T4 84 TAX SCHEDULE
PROGRAM NUMBER: T4

ROW 25: LINES 111-115



ROW 26: LINES 115-119



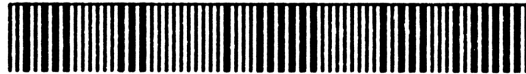
ROW 27: LINES 119-126



ROW 28: LINES 126-131



ROW 29: LINES 132-133



PROGRAM LISTING

```

01*LBL "T5"      47 *          96 RCL 28
02 SF 12         48*LBL 02      97 FRC
03 "85 TAX      49*LBL 05      98 X<> 28
RATE"          50 .3542182    99 INT
04 CLX          19          100 %
05 XEQ "U"       51 ENTER↑    101 ST+ 27
06 CF 10         52 1.112224  102 RDN
07 XEQ "Z"       335        103 X<>Y
08 21           53 XEQ 11     104 X>0?
09 STO 00        54 .4484264  105 GTO 12
10 "TXABL"       37          106 X<>Y
11 XEQ "Z"       55 XEQ 12     107 RTN
12 GTO 00        56 .4585525  108*LBL 04
13*LBL "R"       51          109 .2392192
14 SF 10        57 XEQ 12     10
15*LBL 00        58 1.104        110 ENTER↑
16 ENTER↑       59 ENTER↑    111 1.112312
17 CLX          60 .54341     444
18 STO 27        61 XEQ 11     112 XEQ 11
19 RDN           62 1478      113 .2293233
20 SF 09        63 XEQ 09     33
21 1 E1         64 2664      114 XEQ 12
22 /            65 XEQ 09     115 .3335525
23 GTO IND      66 2477      51
01             67 XEQ 09     116 XEQ 12
24*LBL 01       68 5516      117 .552
25 .2391151     69 XEQ 09     118 ENTER↑
04             70 GTO 10     119 .37332
26 ENTER↑       71*LBL 11     120 XEQ 11
27 1.112112     72 STO 28     121 1103
233            73 RDN      122 XEQ 09
28 XEQ 11       74*LBL 12     123 1655
29 .2182090     75 RDN      124 XEQ 09
39             76 X<=0?     125 2206
30 XEQ 12       77 RTN      126 XEQ 09
31 .2192183     78 R↑       127 2759
33             79 1 E3      128 XEQ 09
32 XEQ 12       80 *        129*LBL 10
33 .5525515     81 FRC        130 RCL 27
52             82 X<>Y     131 5
34 ENTER↑       83 LASTX    132 FS?C 09
35 .444462      84 INT      133 ST+ X
36 XEQ 11       85*LBL 09     134 *
37 770         86 -        135 "TX85"
38 XEQ 09       87 X>0?     136 FS?C 10
39 1436         88 GTO 06     137 RTN
40 XEQ 09       89 RDN      138 "F "
41 2758         90 CLX      139 XEQ "X"
42 XEQ 09       91 RTN      140 ADV
43 GTO 10       92*LBL 06     141 ADV
44*LBL 03       93 10      142 .END.
45 CF 09        94 ST* 28
46 2            95 CLX

```

85 TAX SCHEDULE
PROGRAM NUMBER: : T5

ROW 1: LINES 1-3



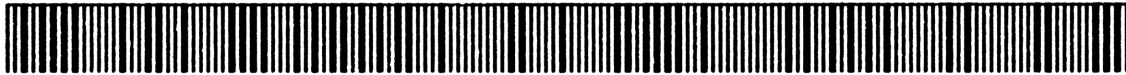
ROW 2: LINES 3-6



ROW 3: LINES 7-11



ROW 4: LINES 11-16



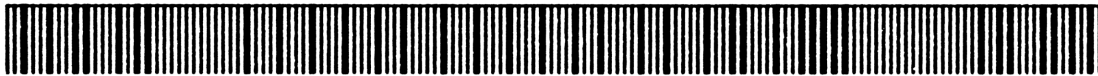
ROW 5: LINES 17-24



ROW 6: LINES 25-27



ROW 7: LINES 27-29



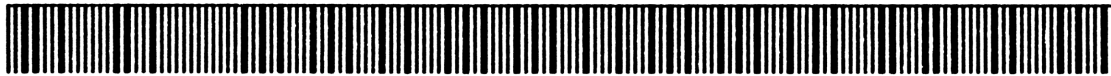
ROW 8: LINES 29-31



ROW 9: LINES 31-33



ROW 10: LINES 33-35



ROW 11: LINES 35-38



ROW 12: LINES 39-42



85 TAX SCHEDULE
PROGRAM NUMBER: 1 T5

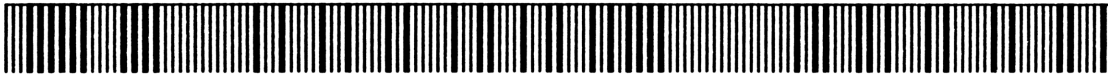
ROW 13: LINES 42-50



ROW 14: LINES 50-52



ROW 15: LINES 52-54



ROW 16: LINES 54-56



ROW 17: LINES 56-58



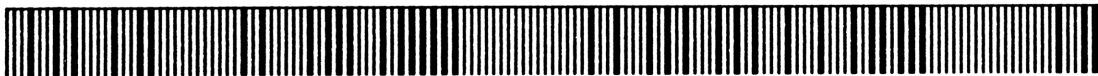
ROW 18: LINES 58-62



ROW 19: LINES 62-66



ROW 20: LINES 66-69



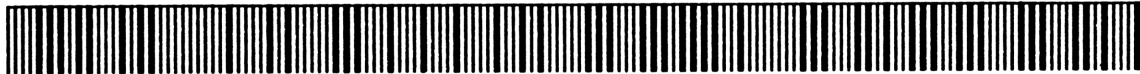
ROW 21: LINES 70-79



ROW 22: LINES 79-90



ROW 23: LINES 91-99



ROW 24: LINES 100-109



85 TAX SCHEDULE
PROGRAM NUMBER: : T5

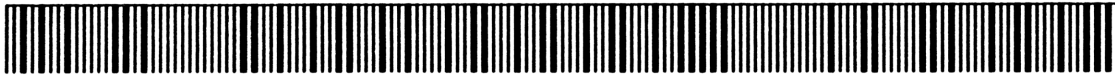
ROW 25: LINES 109-111



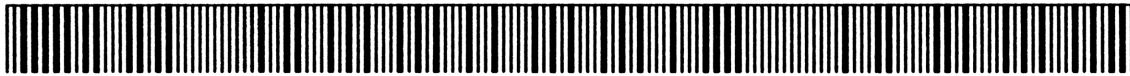
ROW 26: LINES 111-113



ROW 27: LINES 113-115



ROW 28: LINES 115-117



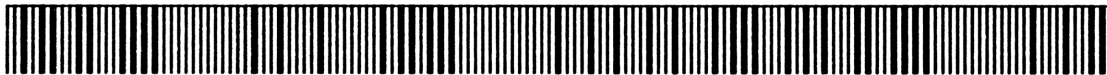
ROW 29: LINES 117-121



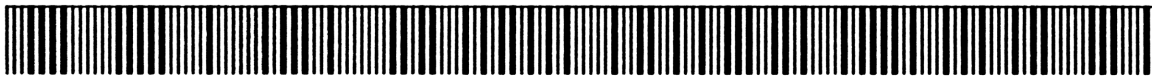
ROW 30: LINES 121-125



ROW 31: LINES 125-128



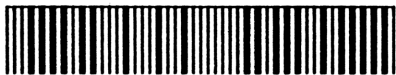
ROW 32: LINES 129-135



ROW 33: LINES 135-142



ROW 34: LINES 142-142



PROGRAM DESCRIPTION

SCHEDULE D CAPITAL GAINS AND LOSSES

PURPOSE -

The purpose of this program is to aid the user in calculating capital gains and losses using Schedule D.

FEATURES/WARNINGS -

The program is relatively straightforward in its operation. Once begun, it steps through the tax form displaying values it assumes to be correct for each line of the form.

Lines that require input from the user are denoted by a colon (":") between the line name (a string of five characters) and the current line value (some number). For example:

in the display "STATS: 2.",

"STATS" is an abbreviation for "Filing Status",
": " indicates a user-specified value, and
"2." is the current value.

Whenever the user encounters a program display similar to the one just described, its line value may be used as is by pressing [R/S] (to continue the program) or may be changed by keying in some new value (using the numeric keys) and pressing [R/S] (to continue the program). Manual calculations may be performed at this time using the HP-41's stack in order to arrive at the desired value to be input.

Lines that represent values calculated by the program, and which should be copied to the form, are denoted by an equal sign ("=") between the line name and the line value. For example:

in the display "LIN4F= -8,000.",

"LIN4F" is an abbreviation for "line 4f",
"= " indicates a program-calculated value, and
"-8,000." is the current line value.

Whenever a program display similar to the one just described is encountered, its line value MUST NOT be changed by the user (i.e., by pressing any key other than [R/S]), or the program may perform calculations based on the altered (and incorrect) value.

This program can be used for completing parts I through IV of Schedule D; it cannot be used for parts V and VI.

The program symbolizes losses as negative numbers and gains as positive ones. The user must do the same. All inputs representing capital losses must be negative. Negative values are entered by keying in the number and pressing the [CHS] key.

The user should be aware that the taxable income prompted for in the beginning of this program is used to determine the value for line 25 (amount of loss to be reported on form 1040) and may have to be adjusted. This would be significant only if the amount adjusted were less than \$3,000 (\$1,500 is married and filing separately). See the tax form instructions for more information on this item.

The Schedule A, Schedule D, and alternate minimum tax programs use many common data registers for different purposes. To minimize reentry of altered information, the programs should be executed in the following order: Schedule A, Schedule D, alternate minimum tax.

The program works equally well in any display mode (FIX, SCI, ENG, 0 through 9), but best results will be obtained using either FIX 0 or 2 which correspond to whole dollar amounts and dollars- and- cents amounts respectively. Money values may be entered in either fashion regardless of the display mode and will be remembered by the program exactly as they are input. However, the display mode does have an effect on the program's output. All output values will be generated using the input values rounded to the current display mode (viz., an input of 9.25 in FIX 0 will be rounded to 9 before it is used in a calculation whereas the same value in FIX 2 will not be altered), and will cause small but perhaps significant deviations in output. The fact that the values are retained exactly as input allows the user to rerun the program with no new inputs in another display mode and quickly see the difference between whole dollar and dollars- and cents input.

The program does no error checking! All input values are assumed to be correct, regardless of their values, and are used as such. Erroneous values will usually not halt the program. The program may either be run to completion, or manually halted and restarted. Either way, the valid inputs may be skipped by pressing [R/S] and the invalid inputs corrected by entering the proper value when the line is displayed.

The program is compatible with printers. If a printer is attached, the program assumes it is on. All input values are echoed and all output values are streamed to the printer. With respect to the user, input values are treated in the same fashion regardless of the printer's presence. The output of program generated values, on the other hand, differs dramatically based on the printer's existence. Without a printer, the program halts at each output value in the same fashion that it does when asking for input, thus allowing the user to manually record the value. With a printer, program-generated output does not halt program execution, is not displayed and is recorded on the printer, thus minimizing user interaction.

One feature of the program allows the user to skip all input prompts if the existing values are known to be correct. In this mode, the user without a printer may view only those lines calculated by the program. The user with a printer may rapidly generate an uninterrupted printout of both input and output. This mode is active when the flag 0 annunciator is lit in the display.

SAMPLE PROBLEM

EXAMPLE -

Fill out the form on pages 74 and 75.

The example assumes:

- * that programs "SD" (Schedule D) and "O" (common subroutines) have been loaded into memory.
- * there are 48 available data registers (i.e., SIZE has been set to a number greater than 47).
- * the program is in "input mode." This is accomplished by pressing [XEQ] "P" repeatedly (no more than twice is necessary) until the annunciator for flag 0 cannot be seen in the display.
- * all pertinent data registers contain the value 0. This is only for convenience in describing the example and is not required. If the user desires to duplicate the example exactly, and is certain that no important data will be destroyed, the computer's CLRG function may be employed to clear data memory (via [XEQ] "CLRG").
- * the display mode is FIX 0.
- * flags 28 and 29 are set (the HP41 decimal point and digit grouping flags).

SOLUTION

DISPLAY	INPUT	KEYSTROKES	COMMENTS
=====			
SCHEDULE D		[XEQ] "SD"	
STATS: 0.	2	[R/S]* [R/S]	Identifies the program. Lines 1-5 of form 1040: filing status. If this program was called from the 1040 program, this prompt will be skipped.
TXABL: 0.	40938	[R/S]	Line 37 from form 1040: taxable income.
TOT1F: 0.	-5000	[R/S]	Total of line 1f: losses.
TOT1G: 0.	6000	[R/S]	Total of line 1g: gains.
LINE2: 0.	85	[R/S]	Line 2: gain from sale of principal residence.
LINE3: 0.	2400	[R/S]	Line 3: short-term capital gain from installment sales.

DISPLAY	INPUT	KEYSTROKES	COMMENTS
LIN4F: 0.	-3000	[R/S]	Line 4f: loss from partnerships and fiduciaries.
LIN4G= 0.		[R/S]*	Line 4g: gain from partnerships and fiduciaries.
LIN5F= -8,000.		[R/S]*	Line 5f: total losses.
LIN5G= 8,485.		[R/S]*	Line 5g: total gains.
LINE6= 485.		[R/S]*	Line 6: net gain (in this case).
LINE7: 0.		[R/S]	Line 7: carryover.
LINE8= 485.		[R/S]*	Line 8: net short term gain.
TOT9F: 0.	-8000	[R/S]	Line 9f: total long term gains.
TOT9G: 0.	9500	[R/S]	Line 9g: total long term gains.
LIN10: 0.	450	[R/S]	Line 10: gain from sale of principal residence.
LIN11: 0.	630	[R/S]	Line 11: long term capital gain from installment sales.
LN12F: 0.		[R/S]	Line 12f: loss from partnerships and fiduciaries.
LN12G: 0.	750	[R/S]	Line 12g: gain from partnerships and fiduciaries.
LN13F= -8,000.		[R/S]*	Line 13f: total losses.
LN13G= 11,330.		[R/S]	Line 13g: total gains.
LIN14= 3,330.		[R/S]	Line 14: net gain.
LIN15: 0.	543	[R/S]	Line 15: capital gains distributions.
LIN16: 0.	2623	[R/S]*	Line 16: gain from form 4797 line 5(a)(1).
LIN17= 6,496.		[R/S]	Line 17: sum lines 14 through 16.
LIN18: 0.	-8,000.	[R/S]	Line 18: Long term loss carryover.
LIN19= -1,504.		[R/S]*	Line 19: net long term loss.
LIN20= -1,019		[R/S]*	Line 20: net loss. Lines 21 through 23 will be skipped.
LIN24= -510.		[R/S]*	Line 24: line (a) is valid.
25 LS= -510.		[R/S]*	Line 25: line (a) is smallest
-510.			The last output is left in the X-register.

* [R/S] in this instance is not necessary if a printer is attached.

Name(s) as shown on Form 1040 (Do not enter name and social security number if shown on other side)

Your social security number

Part III Summary of Parts I and II

20	Combine lines 8 and 19, and enter the net gain or (loss) here	20	-1,019	
Note: If line 20 is a loss, skip lines 21 through 23 and complete lines 24 and 25. If line 20 is a gain complete lines 21 through 23 and skip lines 24 and 25.				
21	If line 20 shows a gain, enter the smaller of line 19 or line 20. Enter zero if there is a loss or no entry on line 19.	21		
22	Enter 60% of line 21	22		
<i>If line 22 is more than zero, you may be liable for the alternative minimum tax. See Form 6251.</i>				
23	Subtract line 22 from line 20. Enter here and on Form 1040, line 13	23	-510	
24	If line 20 shows a loss, enter one of the following amounts: a If line 8 is zero or a net gain, enter 50% of line 20; b If line 19 is zero or a net gain, enter line 20; or c If line 8 and line 19 are net losses, enter amount on line 8 added to 50% of the amount on line 19	24		
25	Enter here and as a loss on Form 1040, line 13, the smallest of: a The amount on line 24; b \$3,000 (\$1,500 if married and filing a separate return); or c Taxable income, as adjusted.	25	-510	

Part IV Computation of Post-1969 Capital Loss Carryovers from 1984 to 1985

(Complete this part if the loss on line 24 is more than the loss on line 25)

26	Enter loss shown on line 8; if none, enter zero and skip lines 27 through 30, then go to line 31	26		
27	Enter gain shown on line 19. If that line is blank or shows a loss, enter zero	27		
28	Reduce any loss on line 26 to the extent of any gain on line 27	28		
29	Enter smaller of line 25 or line 28	29		
30	Subtract line 29 from line 28. This is your short-term capital loss carryover from 1984 to 1985	30		
31	Subtract line 29 from line 25. (Note: If you skipped lines 27 through 30, enter amount from line 25)	31		
32	Enter loss from line 19; if none, enter zero and skip lines 33 through 36	32		
33	Enter gain shown on line 8. If that line is blank or shows a loss, enter zero	33		
34	Reduce any loss on line 32 to the extent of any gain on line 33	34		
35	Multiply amount on line 31 by 2	35		
36	Subtract line 35 from line 34. This is your long-term capital loss carryover from 1984 to 1985	36		

Part V Complete this Part Only If You Elect Out of the Installment Method and Report a Note or Other Obligation at Less Than Full Face Value

☐ Check here if you elect out of the installment method.
Enter the face amount of the note or other obligation. ►
Enter the percentage of valuation of the note or other obligation. ►

Part VI Reconciliation of Forms 1099-B With Tax Return (Complete this part if you received one or more Forms 1099-B or equivalent statement reporting sales of stock, bonds, etc. or bartering income.)**SECTION A.—Reconciliation of Sales of Stocks, Bonds, etc.**

37	Total sales of stock, bonds, etc. from Forms 1099-B or equivalent statement received from your brokers	37		
38	Proceeds from sale or exchange of capital assets reported on Schedule D, but not included in line 37	38		
39	Add lines 37 and 38.	39		
40	Part of line 37 not reported on Schedule D this year, attach explanation	40		
41	Subtract line 40 from line 39.	41		

Note: The amount on line 41 should be the same as the total of all amounts on page 1, lines 1 and 9 of column d.

SECTION B.—Reconciliation of Bartering Income

Indicate below the amount of bartering income reported on each form or schedule

42	Form 1040, line 22.	42		
43	Schedule C (Form 1040)	43		
44	Schedule D (Form 1040)	44		
45	Schedule E (Form 1040)	45		
46	Schedule F (Form 1040)	46		
47	Other (identify) (if not taxable, indicate reason—attach additional sheets if necessary) ►	47		
48	Total (add lines 42 through 47)	48		

Note: The amount on line 48 should be the same as the total bartering on all Forms 1099-B or equivalent statements received.

	USER INSTRUCTIONS	
--	-------------------	--

COMMENTS	INPUT	KEYSTROKES	DISPLAY
=====			
1. At a minimum, load the following programs: "SD" (Schedule D) and "O" (misc. routines).		[shift][GTO] .. [shift][GTO] ..	
2. Allocate data registers (minimum 48).		[XEQ]"SIZE" 048	
3. Select an appropriate display format.		[shift][FIX] n	
4. Select either "prompting" (flag 0 set) or "non-prompting" (flag 0 clear) mode. Pressing [XEQ] "P" toggles between these modes.		[XEQ] "P"	
5. Run the Schedule D program.		[XEQ] "SD"	SCHEDULE D
6. This display identifies the program.		[R/S]*	STATS: x
7. Enter one of lines 1-5: your filing status.	status	[R/S]	TXABL: x
8. Enter line 37 from form 1040: taxable income.	taxable	[R/S]	TOT1F: x
9. Enter the total of column 1f. This number must be negative since it is a loss.	total	[R/S]	TOT1G: x
10. Enter the total of column 1g.	total	[R/S]	LINE2: x
11. Enter line 2: gain from sale of principal residence.	gain	[R/S]	LINE3: x
12. Enter line 3: short-term capital gain from installment sales.	gain	[R/S]	LIN4F: x

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
=====			
13. Enter line 4f: loss from partnerships and fidu- ciaries. This number should be negative. If a value is entered here, line 4g will be output with a value of zero.	loss	[R/S]	LIN4G: x
14. If line 4f was zero, enter line 4g: gain from partnerships and fiduciaries. This number should be positive.	gain	[R/S]	LIN5F= x
15. Output of line 5f: total losses.		[R/S]*	LIN5G= x
16. Output of line 5g: total gains.		[R/S]*	LINE6= x
17. Output of line 6: net gain or loss.		[R/S]*	LINE7: x
18. Enter line 7: short term capital loss carryover.	carryover	[R/S]	LINE8= x
19. Output of line 8: net short term gain.		[R/S]*	TOT9F: x
20. Enter the total of column 9f. This number must be negative since it is a loss.	total loss	[R/S]	TOT9G: x
21. Enter the total of column 9g.	total gain	[R/S]	LIN10: x
22. Enter line 10: gain from sale of principal residence.	gain	[R/S]	LIN11: x
23. Enter line 11: long term capital gain from installment sales.	gain	[R/S]	LN12F: x

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
=====			
24. Enter line 12f: loss from partnerships and fiduciaries. If a value is entered here, line 12g will be output with a value of zero.	loss	[R/S]	LN12G: x
25. Enter line 12g: gain from partnerships and fiduciaries.	gain	[R/S]	LN13F= x
26. Output of line 13f: total losses.		[R/S]*	LN13G= x
27. Output of line 13g: total gains.		[R/S]*	LIN14= x
28. Output of line 14: net gain.		[R/S]*	LIN15: x
29. Enter line 15: capital gains distributions.	distrib.	[R/S]	LIN16: x
30. Enter line 16: gain from form 4797 line 5(a)(1).	gain	[R/S]	LIN17= x
31. Output of line 17: sum lines 14 through 16.		[R/S]*	LIN18: x
32. Enter line 18: Long term loss carryover.	carryover	[R/S]	LIN19= x
33. Output of line 19: net long term loss.		[R/S]*	LIN20= x
34. Output of line 20: net gain or loss. If this line is negative, lines 21 through 23 will be skipped and lines 24 and 25 will be output. If this line is positive, lines 24 and 25 will be skipped and lines 21 through 23 will be output.		[R/S]*	LIN21= x

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
=====			
35. Output line 21: the smaller of lines 19 and 20. The output is zero if line 19 shows a loss.		[R/S]*	LIN22= x
36. Output line 21: 60% of line 21.		[R/S]*	LIN23= x
37. Output line 23: line 22 from line 20.		[R/S]*	LIN24= x
38. Output of line 24: If line 7 >= 0 then output 50% of line 9. If line 19 >= 0 then output line 20, else output line 8 + 50% line 19.		[R/S]*	LIN25= x
39. Output line 25: the smallest of line 24, \$3000 (\$1500 if status 3) and adjusted taxable income.		[R/S]*	LIN25= x
40. If line 25 shows a loss equal to or greater than line 23 then the program will halt at this point.			
41. Output line 26: output line 8 if it is a loss, else output 0. If 0, skip lines 27 through 30.		[R/S]*	LIN27= x
42. Output line 27: line 19 if a gain, otherwise 0.		[R/S]*	LIN28= x
43. Output line 28: combine lines 26 and 27.		[R/S]*	LIN29= x
44. Output line 29: the smaller of lines 25 and 28.		[R/S]*	LIN30= x
45. Output line 30: line 29 from line 28.		[R/S]*	LIN31= x

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
=====			
46. Output of line 31: line 29 from line 25 or a copy of line 25.		[R/S]*	LIN32= x
47. Output of line 32: line 19 if a loss, 0 if not.		[R/S]*	LIN33= x
48. Output of line 33: line 8 if a gain, otherwise 0.		[R/S]*	LIN34= x
49. Output of line 34: line 33 + line 32. If greater than 0, output 0.		[R/S]*	LIN35= x
50. Output line 35: line 31 * 2.		[R/S]*	LIN36= x
51. Output of line 36: line 35 from line 34.		[R/S]*	x
52. The last output is left in the X-register.			

* [R/S] in this instance is not necessary if a printer is attached.

PROGRAM DETAIL -

The form Schedule D program is 274 steps and 651 bytes (93.0 registers) long. It requires one other program: the miscellaneous routines program - 259 bytes (37 registers). At a minimum, 49 data registers are needed, totalling 179 registers for operation.

The program has one entry point, global label "SD".

Aside from the flags manipulated by the subroutines called, the program itself manipulates the following flags:

flag 06 : set - to disable the accumulate feature of routine "X"
 flag 12 : set - print double wide (for the printed program identifier)
 clear - print single wide

The data registers used by the form 1040 program are preserved with the exception of registers 1, 9 and 21. The following data registers are used:

- 00 = register index for data manipulation
- * 01 = lines 1 through 5, form 1040: filing status
- * 09 = line 24 or 25: capital gain or loss to be reported on form 1040
- * 21 = line 37, form 1040: taxable income
- 27 = accumulator index
- 28 = line 5g: total short-term gain;
line 6: net gain or loss;
line 13: total long term gain;
line 14: net gain or loss;
line 17: sum of lines 14 through 16
- * 29 = line 22: 60% of line 21
- 30 = total of column 1f (short-term losses)
- 31 = total of column 1g (short-term gains)
- 32 = line 2: gain from sale or exchange of a principal residence
- 33 = line 3: short-term capital gain from installment sales
- 34 = line 4f: net short-term loss from partnership and fiduciaries
- 35 = line 4g: net short-term gain from partnership and fiduciaries
- 36 = line 7: short-term capital loss carryover from prior years
- 37 = line 8: net short-term gain or loss
- 38 = total of column 9f (long-term losses)
- 39 = total of column 9g (long-term gains)
- 40 = line 10: long-term gain from sale or exchange of a principal residence
- 41 = line 11: long-term capital gain from installment sales
- 42 = line 12f: net long-term loss from partnership and fiduciaries
- 43 = line 12g: net long-term gain from partnership and fiduciaries
- 44 = line 15: capital gains distributions
- 45 = line 16: gain from form 4797
- 46 = line 18: long-term capital loss carryover from prior years
- 47 = line 19: net long-term gain or loss

* indicates registers containing values used by other program(s).

PROGRAM LISTING

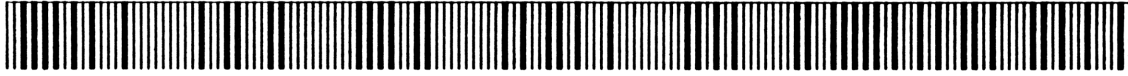
01*LBL "SD"	52 ADV	104 XEQ "V"	156 RDN
02*LBL 00	53 CLX	105 ENTER↑	157*LBL 07
03 SF 12	54 STO 28	106 X<0?	158 RND
04 "SCHEDUL	55 "TOT9F"	107 GTO 04	159 STO 28
E D"	56 XEQ "Z"	108 "LIN21"	160 XEQ "X"
05 28	57 "TOT9G"	109 RCL 47	161 "25 LS"
06 XEQ "U"	58 XEQ "Y"	110 X>Y?	162 ABS
07 XEQ "Z"	59 "LIN10"	111 X<>Y	163 1
08 "TXABL"	60 XEQ "Y"	112 X<0?	164 SIGN
09 21	61 "LIN11"	113 CLX	165 RDN
10 STO 00	62 XEQ "Y"	114 XEQ "V"	166 RCL 01
11 XEQ "Z"	63 "LN12F"	115 "LIN22"	167 3
12 ADV	64 XEQ "Z"	116 .6	168 X=Y?
13 30	65 "LN12G"	117 *	169 ISG L
14 STO 00	66 XEQ 01	118 RND	170 CLD
15 "TOT1F"	67 "LN13F"	119 STO 29	171 RDN
16 XEQ "Z"	68 RCL 30	120 XEQ "X"	172 RDN
17 "TOT1G"	69 RND	121 "23 GM"	173 3 E3
18 XEQ "Y"	70 ABS	122 X<>Y	174 LASTX
19 "LINE2"	71 RCL 42	123 RDN	175 /
20 XEQ "Y"	72 RND	124 -	176 X<Y?
21 "LINE3"	73 ABS	125 STO 09	177 X<>Y
22 XEQ "Y"	74 +	126 XEQ "V"	178 RDN
23 "LIN4F"	75 CHS	127 GTO 05	179 RCL 21
24 XEQ "Z"	76 XEQ "V"	128*LBL 04	180 RND
25 "LIN4G"	77 "LN13G"	129 0	181 X<Y?
26 XEQ 01	78 RCL 28	130 STO 29	182 X<>Y
27 "LIN5F"	79 XEQ "V"	131 RDN	183 RDN
28 RCL 30	80 "LIN14"	132 "LIN24"	184 CHS
29 RND	81 +	133 RCL 37	185 RND
30 ABS	82 STO 28	134 SIGN	186 STO 09
31 RCL 34	83 XEQ "V"	135 X>0?	187 XEQ "V"
32 RND	84 ADV	136 GTO 08	188 RCL 28
33 ABS	85 "LIN15"	137 RCL 47	189 X<>Y
34 +	86 XEQ "Y"	138 SIGN	190 X<=Y?
35 CHS	87 "LIN16"	139 X>0?	191 GTO 05
36 XEQ "V"	88 XEQ "Y"	140 GTO 06	192 ADV
37 "LIN5G"	89 "LIN17"	141 RCL 37	193 "LIN26"
38 RCL 28	90 RCL 28	142 RND	194 RCL 37
39 XEQ "V"	91 XEQ "V"	143 RCL 47	195 X>0?
40 "LINE6"	92 "LIN18"	144 RND	196 CLX
41 +	93 XEQ "Z"	145 2	197 XEQ "V"
42 STO 28	94 "LIN19"	146 /	198 X=0?
43 XEQ "V"	95 RCL 28	147 +	199 GTO 09
44 "LINE7"	96 RND	148 GTO 07	200 "LIN27"
45 XEQ "Z"	97 +	149*LBL 08	201 RCL 47
46 "LINE8"	98 STO 47	150 CLX	202 X<0?
47 RCL 28	99 XEQ "X"	151 50	203 CLX
48 RND	100 ADV	152 %	204 XEQ "V"
49 +	101 "LIN20"	153 GTO 07	205 "LIN28"
50 STO 37	102 RCL 37	154*LBL 06	206 +
51 XEQ "X"	103 +	155 RDN	207 X>0?

	PROGRAM LISTING	
--	-----------------	--

208 CLX	261 ADV
209 ENTER↑	262 ADV
210 XEQ "V"	263 RTN
211 "LIN29"	264 GTO 00
212 RCL 09	265♦LBL 01
213 X<Y?	266 X=0?
214 X<>Y	267 GTO 02
215 STO T	268 CLX
216 XEQ "V"	269 STO IND
217 "LIN30"	00
218 X<>Y	270 XEQ "X"
219 RDN	271 RTN
220 -	272♦LBL 02
221 X>0?	273 XEQ "Y"
222 CLX	274 .END,
223 XEQ "V"	
224 RDN	
225♦LBL 09	
226 ADV	
227 "LIN31"	
228 RCL 09	
229 RND	
230 X<>Y	
231 -	
232 XEQ "V"	
233 "LIN32"	
234 RCL 47	
235 X>0?	
236 CLX	
237 XEQ "V"	
238 X=0?	
239 GTO 05	
240 "LIN33"	
241 RCL 37	
242 X<0?	
243 CLX	
244 XEQ "V"	
245 "LIN34"	
246 +	
247 X>0?	
248 CLX	
249 XEQ "V"	
250 "LIN35"	
251 X<>Y	
252 2	
253 *	
254 XEQ "V"	
255 "LIN36"	
256 -	
257 X>0?	
258 CLX	
259 XEQ "V"	
260♦LBL 05	

CAPITAL GAINS + LOSSES
PROGRAM NUMBER: 1040

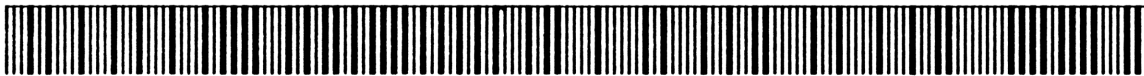
ROW 1: LINES 1-4



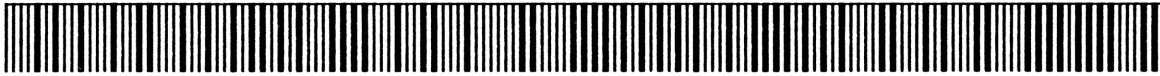
ROW 2: LINES 4-7



ROW 3: LINES 7-11



ROW 4: LINES 11-16



ROW 5: LINES 16-19



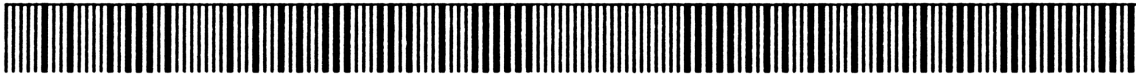
ROW 6: LINES 19-22



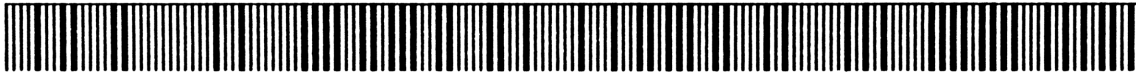
ROW 7: LINES 22-25



ROW 8: LINES 25-27



ROW 9: LINES 28-36



ROW 10: LINES 37-40



ROW 11: LINES 40-44



ROW 12: LINES 44-47

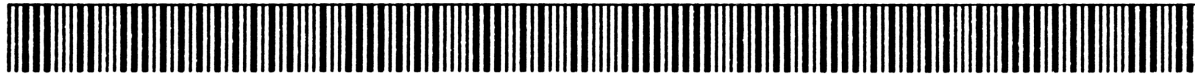


CAPITAL GAINS + LOSSES
PROGRAM NUMBER: 1040

ROW 13: LINES 47-55



ROW 14: LINES 55-57



ROW 15: LINES 57-60



ROW 16: LINES 61-63



ROW 17: LINES 63-66



ROW 18: LINES 66-71



ROW 19: LINES 72-77



ROW 20: LINES 78-82



ROW 21: LINES 82-86



ROW 22: LINES 86-89



ROW 23: LINES 89-92



ROW 24: LINES 92-96



CAPITAL GAINS + LOSSES
PROGRAM NUMBER: 1040

ROW 25: LINES 97-101



ROW 26: LINES 102-108



ROW 27: LINES 108-115



ROW 28: LINES 115-120



ROW 29: LINES 120-126



ROW 30: LINES 126-132



ROW 31: LINES 132-140



ROW 32: LINES 141-150



ROW 33: LINES 151-160



ROW 34: LINES 160-166



ROW 35: LINES 167-176



ROW 36: LINES 177-187



CAPITAL GAINS + LOSSES
PROGRAM NUMBER: 1040

ROW 37: LINES 187-193



ROW 38: LINES 193-200



ROW 39: LINES 200-205



ROW 40: LINES 205-211



ROW 41: LINES 211-217



ROW 42: LINES 217-223



ROW 43: LINES 224-231



ROW 44: LINES 232-236



ROW 45: LINES 237-241



ROW 46: LINES 241-246



ROW 47: LINES 247-252

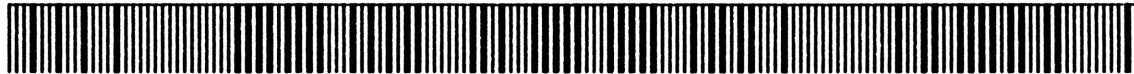


ROW 48: LINES 253-258



CAPITAL GAINS + LOSSES
PROGRAM NUMBER: 1040

ROW 49: LINES 259-267



ROW 50: LINES 268-274



ROW 51: LINES 274-274



PROGRAM DESCRIPTION

FORM 6251 ALTERNATE MINIMUM TAX

PURPOSE -

The purpose of this program is to aid the user in the computation of alternate minimum tax using form 6251.

FEATURES/WARNINGS -

The program is relatively straight forward in its operation. Once begun, it steps through the tax form displaying values it assumes to be correct for each line of the form.

Lines that require input from the user are denoted by a colon (":") between the line name (a string of five characters) and the current line value (some number). For example:

in the display "STATS: 2.",

"STATS" is an abbreviation for "Filing Status",
": " indicates a user-specified value, and
"2." is the current value.

At any time the user encounters a program display similar to the one just described, its line value may be used as is by pressing [R/S] (to continue the program) or may be changed by keying in some new value (using the numeric keys) and pressing [R/S] (to continue the program). Manual calculations may be performed at this time using the HP-41's stack in order to arrive at the desired value to be input.

Lines that represent values calculated by the program, and which should be copied to the form, are denoted by an equal sign ("=") between the line name and the line value. For example:

in the display "LIN2e3= 62.",

"LIN2e3" is an abbreviation for "line 2e(3)",
"= " indicates a program-calculated value, and
"62." is the current line value.

At any time a program display similar to the one just described is encountered, its line value MUST NOT be changed by the user (i.e., by pressing any key other than [R/S]), or the program may perform calculations based on the altered (and incorrect) value.

Programs "SA" (Schedule A, itemized deductions), "SD" (Schedule D, capital gains and losses, "AM" (form 6251, alternative minimum tax), and "SW" (Schedule W, married couple deduction) all use many of the same data registers, with the result that the use of any one of these programs will destroy input data previously entered for any of the other three. If only one of these programs is needed, the user will encounter no problem. To minimize the requirement to re-enter data when using more than one of these programs, their use in the following order is recommended: Schedule W, Schedule D, Schedule A, Form 6251.

The program works equally well in any display mode (FIX, SCI, ENG, 0 through 9), but best results will be obtained using either FIX 0 or 2 which correspond to whole dollar amounts and dollars- and- cents amounts respectively. Money values may be entered in either fashion regardless of the display mode and will be remembered by the program exactly as they are input. However, the display mode does have an effect on the program's output. All output values will be generated using the input values rounded to the current display mode (viz., an input of 9.25 in FIX 0 will be rounded to 9 before it is used in a calculation whereas the same value in FIX 2 will not be altered), and will cause small but perhaps significant deviations in output. The fact that the values are retained exactly as input allows the user to rerun the program with no new inputs in another display mode and quickly see the difference between whole dollar and dollars- and cents input.

The program does no error checking! All input values are assumed to be correct, regardless of their values, and are used as such. Erroneous values will usually not halt the program. The program may either be run to completion, or manually halted and restarted. Either way, the valid inputs may be skipped by pressing [R/S] and the invalid inputs corrected by entering the proper value when the line is displayed.

The program is compatible with printers. If a printer is attached, the program assumes it is on. All input values are echoed and all output values are streamed to the printer. With respect to the user, input values are treated in the same fashion regardless of the printer's presence. The output of program generated values, on the other hand, differs dramatically based on the printer's existence. Without a printer, the program halts at each output value in the same fashion that it does when asking for input, thus allowing the user to manually record the value. With a printer, program- generated output does not halt program execution, is not displayed and is recorded on the printer, thus minimizing user interaction.

One feature of the program allows the user to skip all input prompts if the existing values are known to be correct. In this mode, the user without a printer may view only those lines calculated by the program. The user with a printer may rapidly generate an uninterrupted printout of both input and output. This mode is active when the flag 0 annunciator is lit in the display.

SAMPLE PROBLEM

EXAMPLE -

Fill out the form on page 92.

The example assumes:

- * that programs "AM" (Alternate Minimum Tax) and "O" (common subroutines) have been loaded into memory.
- * there are 51 available data registers (i.e., SIZE has been set to a number greater than 51).
- * the program is in "input mode." This is accomplished by pressing [XEQ] "P" repeatedly (no more than twice is necessary) until the annunciator for flag 0 cannot be seen in the display.
- * all pertinent data registers contain the value 0. This is only for convenience in describing the example and is not required. If the user desires to duplicate the example exactly, and is certain that no important data will be destroyed, the computer's CLRG function may be employed to clear data memory (via [XEQ] "CLRG").
- * the display mode is FIX 0.
- * flags 28 and 29 are set (the HP41 decimal point and digit grouping flags).

SOLUTION

DISPLAY	INPUT	KEYSTROKES	COMMENTS
=====			
		[XEQ] "AM"	
ALT MIN TAX		[R/S]*	Identifies the program.
STATS: 0.	2	[R/S]	Lines 1-5 of form 1040: filing status.
AGI : 0.	47645	[R/S]	Line 32 of form 1040: adjusted gross income.
LN2a1: 0.	343	[R/S]	Schedule A, line 7: medical and dental expenses.
LN2a2= 2,382.		[R/S]*	5% of adjusted gross income.
LN2a3= 0.		[R/S]*	Line 2a(2) from 2a(1).
LIN2b: 0.	560	[R/S]	Sched. A, line 20: contributions.
LIN2c: 0.		[R/S]	Schedule A, line 21: casualty and theft loss.
LIN2d: 0.	2377	[R/S]	Sched. A, line 13: interest expense on residence.
LN2e1: 0.	62	[R/S]	Sched. A, line 13 from line 16: other interest expense.

DISPLAY	INPUT	KEYSTROKES	COMMENTS
LN2e2: 0.	2340	[R/S]	Net investment income.
LN2e3= 62.		[R/S]*	Smaller of lines 2e(1) and 2e(2).
LIN2F: 0.		[R/S]	Gambling losses included in line 24 of Sched. A.
LIN2G: 0.		[R/S]	Estate tax included in line 24 of Schedule A.
LIN2H= 2,999.		[R/S]*	Total of lines 2e(3), 2b, 2c, 2d, 2e(3), 2f and 2g.
LINE3= 44,646.		[R/S]*	Line 2h from line 1.
LIN4a: 0.	200	[R/S]	Total of all-savers interest (Sched. B) and divided exclusion (Form 1040, line 9b).
LIN4b: 0.	1361	[R/S]	60% capital gain deduction: Schedule D, line 22.
LIN4c: 0.	900	[R/S]	Accelerated depreciation on certain real property.
LIN4d: 0.		[R/S]	Accelerated depreciation on certain leased property.
LIN4e: 0.	1200	[R/S]	Pollution control amort.
LIN4F: 0.		[R/S]	Mining exploration and dev.
LIN4G: 0.		[R/S]	Circulation and research and experimental expenditures
LIN4H: 0.		[R/S]	Reserves for losses on bad debts of financial ins.
LIN4I: 0.	150	[R/S]	Depletion
LIN4J: 0.		[R/S]	Incentive stock options
LIN4K: 0.		[R/S]	Intangible drilling costs
LIN4L: 3,811.			

* [R/S] in this instance is not necessary if a printer is attached.

Form **6251**Department of the Treasury
Internal Revenue Service**Alternative Minimum Tax Computation**

▶ Attach to Forms 1040, 1040NR, 1041 or 990-T (Trust).

OMB No. 1545-0227

1984
32

Name(s) as shown on tax return

Identifying number

1	Adjusted gross income from Form 1040, line 33 or Form 1040NR, line 32 (see instructions)	1	47,645
2	Deductions (see instructions):		
a	(1) Medical and dental expense from Schedule A, line 5	2a(1)	343
	(2) Multiply Form 1040, line 33 by 5% (.05)	2a(2)	2,382
	(3) Subtract line 2a(2) from line 2a(1). (If zero or less, enter zero)	2a(3)	0
b	Contributions from Schedule A, line 18	2b	560
c	Casualty and theft losses from Schedule A, line 19	2c	0
d	Qualified interest on property used as a residence from Schedule A, line 11	2d	2,377
e	(1) Interest, other than line 2d above, from Schedule A, line 14	2e(1)	62
	(2) Net investment income (If zero or less, enter zero)	2e(2)	2,340
	(3) Enter the smaller of line 2e(1) or line 2e(2)	2e(3)	62
f	Gambling losses to the extent of gambling winnings from Schedule A, line 22	2f	0
g	Estate tax allowable under section 691(c) from Schedule A	2g	0
h	Add lines 2a(3), b, c, d, e(3), f, and g	2h	2,999
3	Subtract line 2h from line 1	3	44,646
4	Tax preference items:		
a	Dividend exclusion	4a	200
b	60% capital gain deduction	4b	1,361
c	Accelerated depreciation on nonrecovery real property or 15 (or 18)-year real property	4c	900
d	Accelerated depreciation on leased personal property or leased recovery property other than 15 (or 18)-year real property	4d	0
e	Amortization of certified pollution control facilities	4e	1,200
f	Mining exploration and development costs	4f	
g	Circulation and research and experimental expenditures	4g	
h	Reserves for losses on bad debts of financial institutions	4h	
i	Depletion	4i	150
j	Incentive stock options	4j	
k	Intangible drilling costs	4k	
l	Add lines 4a through 4k	4l	3,811
5	Alternative minimum taxable income (add lines 3 and 4(l)) (short period returns, see instructions)	5	48,457
6	Enter: \$40,000, if married filing joint return or surviving spouse \$30,000, if single or head of household \$20,000, if married filing separate return or estate or trust	6	40,000
7	Subtract line 6 from line 5. If zero or less, do not complete the rest of this form	7	8,457
8	Enter 20% of line 7	8	1,691
9	Amount from Form 1040, line 50 or Form 1040NR, line 51 (Do not include Form 1040, line 39 or Form 1040NR, line 41.) (estates and trusts, see instructions)	9	8,039
10	Subtract line 9 from line 8. If zero or less, enter zero	10	0
11	Foreign tax credit	11	0
12	Alternative minimum tax (subtract line 11 from line 10). Enter on Form 1040, or Form 1040NR, line 52, Form 1041, line 32, or Form 990-T, page 1, line 14	12	0

Instructions

(Section References are to the Internal Revenue Code)

Paperwork Reduction Act Notice.—We ask for this information to carry out the Internal Revenue laws of the United States. We need it to ensure that taxpayers are complying with these laws and to allow us to figure and collect the right amount of tax. You are required to give us this information.

Who Must File.—File this form if: (a) You are liable for the alternative minimum tax; or (b) you have one or more tax preference items on lines 4c through 4k; or (c) you have an amount on line 2e(3), and line 2e(2) includes income other than interest and dividend income.

Individuals, estates or trusts may be liable if their adjusted gross income plus tax preference items listed on line 4 total more than line 6.

For more information, see Publication 909, Alternative Minimum Tax.

Minimum Tax Deferred From Earlier Year(s).

—If a net operating loss carryover from an earlier year(s) reduces taxable income for 1984, and the net operating loss giving rise to the carryover resulted in the deferral of minimum tax in that earlier year(s), all or part of the deferred minimum tax may be includible as tax liability for 1984. Figure the deferred minimum tax at 15% and complete and attach a 1982 Form 4625, Computation of Minimum Tax—Individuals, lines 14 through 18. You may attach a schedule following the format of Form 4625. Enter the amount from line 18 on Form 1040, line 52, or Form 1041, line 32 and write "Form 4625."

Partners, Beneficiaries, etc.—If you are a:

(1) Partner or shareholder of an S corporation, take into account separately your distributive share of items of income and deductions that enter into the computation of tax preference items.

(2) Beneficiary of an estate or trust, see section 58(c).

(3) Participant in a common trust fund, see section 58(e).

(4) Shareholder or holder of beneficial interest in a regulated investment company or a real estate investment trust, see section 58(f).

Carryback and Carryover of Unused Credits.—It may be necessary to figure the carryback or carryover of certain unused credits. See section 55(c)(3).

(Continued on back)

USER INSTRUCTIONS

COMMENTS	INPUT	KEYSTROKES	DISPLAY
=====			
1. At a minimum, load the following programs: "AM" (Alternate Minimum Tax) "O" (misc. routines).		[shift][GTO] .. [shift][GTO] ..	
2. Allocate data registers (minimum 52).		[XEQ] "SIZE" 052	
3. Select an appropriate display format.		[shift][FIX] n	
4. Select either "prompting" (flag 0 set) or "non-prompting" (flag 0 clear) mode. Pressing [XEQ] "P" toggles between these modes.		[XEQ] "P"	
5. Run the program.		[XEQ] "AM"	ALT MIN TAX
6. This display identifies the program.		[R/S]*	STATS: x
7. Enter one of lines 1-5: your filing status.	status	[R/S]	AGI : x
8. Enter line 32 of form 1040: adjusted gross income.	AGI	[R/S]	LN2a1: x
9. Enter line 5 from Sched A: net medical expense.	net med exp	[R/S]	LN2a2= x
10. Output of line 2a(2): 5% of AGI.		[R/S]*	LN2a3= x
11. Output of line 2a(3): line 2a(2) from line 2a(1); if less than 0 output 0.		[R/S]	LIN2b: x
12. Enter line 18 from Sched A total contributions.	contributions	[R/S]	LIN2c: x
13. Enter line 19 from Sched. A: total casualty and theft loss.	casualty	[R/S]	LIN2d: x

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
=====			
14. Enter line 11 from Sched. A: interest expense on residence.	mortgage	[R/S]	LN2e1: x
15. Enter difference of Lines 14 and 11, Sched. A: other interest expense.	other interest	[R/S]	LN2e2: x
16. Enter net investment income.	net inv. inc	[R/S]	LN2e3: x
17. Output of line 2e(3): smaller of lines 2e(1) and 2e(2)		[R/S]*	LIN2F: x
18. Enter line 2f: gambling losses included in line 22 of Sched. A.	gambling losses	[R/S]	LIN2G: x
19. Enter line 2g: estate tax included in Schedule A.	estate tax	[R/S]	LIN2H: x
20. Output of line 2h: Total of lines 2a(3), b, c, d, e(3), f, and g.		[R/S]*	LINE3: x
21. Output of line 3: line 2h from line 1; 0, output 0.		[R/S]*	LIN4a: x
22. Enter line 4a: dividend exclusion from 1040, line 9b.	exclusion	[R/S]	LIN4b: x
23. Enter line 4b: 60% capital capital gain deduction from line 22, Sched D.	60% CGD	[R/S]	LIN4c: x
24. Enter line 4c: accelerated depreciation on certain real property.	depr.	[R/S]	LIN4d: x
25. Enter line 4d: accelerated depreciation on certain leased property.	depr.	[R/S]	LIN4e: x

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
=====			
26. Enter line 4e: amortization of certified pollution control facilities.	pollution	[R/S]	LIN4F: x
27. Enter line 4f: mining exploration and development costs.	mining	[R/S]	LIN4G: x
28. Enter line 4g: circulation and research and experimental expenditures.	circ.	[R/S]	LIN4H: x
29. Enter line 4h: reserves for losses on bad debts of financial institutions.	bad debts	[R/S]	LIN4I: x
30. Enter line 4i: depletion.	depletion	[R/S]	LIN4J: x
31. Enter line 4j: incentive stock options.	options	[R/S]	LIN4K: x
32. Enter line 4k: intangible drilling costs.	drilling	[R/S]	LIN4L= x
33. Output of line 4l: total of lines 2a through 2k		[R/S]*	LINE5= x
34. Output of line 5: sum of lines 3 and 4l		[R/S]*	LINE6= x
35. Output of line 6: exemption. \$40,000 for filing status 2 & 5; 30,000 for status 1 & 4; \$20,000 for status 3.		[R/S]*	LINE7= x
36. Output of line 7: .line 6 from line 5; if zero or less, output zero and goto instruction 42.		[R/S]*	LINE8= x
37. Output of line 8: 20% of line 7.		[R/S]*	LINE9= x
38. Enter line 9: line 50 from Form 1040.	line 50	[R/S]	LIN10= x

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
=====			
39. Output of line 10: line 9 from line 8; if less than 0, output 0.		[R/S]*	LIN11: x
40. Enter line 11: foreign tax credit.	credit	[R/S]	LIN12= x
41. Output of line 12: alternative minimum tax if less than 0, output 0.		[R/S]*	AMTAX= x
42. Final output: alternative minimum tax.		[R/S]*	x
43. The last value is left in the X-register.			

* [R/S] in this instance is not necessary if a printer is in use.

PROGRAM DETAIL -

The Alternate Minimum Tax program is 181 steps and 454 bytes (64.9 registers) long. It requires one other program: the miscellaneous routines program at 259 bytes. At a minimum, 52 data registers are needed, totalling 153.9 registers for operation.

The program has one entry point, global label "AM".

Aside from the flags manipulated by the subroutines called, the program itself manipulates the following flags:

flag 12 : set - print double wide (for the printed program
 identifier)
 clear - print single wide

The data registers used by the form 1040 program are preserved with. The following data registers are used:

00 = register index for data manipulation
*01 = lines 1 through 5, form 1040: filing status
*06 = dividends received exclusion: line 9b of form 1040
*17 = line 1, adjusted gross income from form 1040
*22 = net tax after credits: line 49 of form 1040
27 = accumulator index
28 = line 3: line 2h from line 1
 line 7: line 6 from line 5
 line 10: line 9 from line 8

*29 = line 4b: 60% capital gain deduction (from Sched. D)
 30 = line 2e(1): interest expense other than home mortgage (Sched. A)
 31 = line 2e(2): net investment income
 32 = line 2f: gambling losses included in misc. deductions (Sched. A)
 33 = line 2g: estate tax from Sched. A
 *34 = line 2a(1): net medical expenses (Sched. A, line 7)
 36 = line 4c: accelerated depreciation on non-recovery or 15-yr real pr
 37 = line 4d: accelerated depreciation on other property
 38 = line 4e: amortization of certified pollut. ctrl. facilities
 39 = line 4f: mining exploration and development costs
 *40 = line 2d: home mortgage interest paid (Sched. A, line 13)
 41 = line 4g: circulation research and experimental expenditures
 42 = line 4h: reserves for losses on bad debts of financial inst.
 *43 = total interest expense: Sched. A, line 16
 *44 = line 2b: total contributions (Sched. A., line 20)
 *45 = line 2c: total casualty or theft loss (Sched. A, line 21)
 46 = line 4i: depletion
 47 = line 4j: incentive stock options
 48 = line 4k: intangible drilling costs
 49 = line 4l: total of lines 4a through 4k
 50 = line 11: foreign tax credit
 *51 = line 12: alternative minimum tax

* indicates registers containing values used by other program(s).

PROGRAM LISTING

```

01*LBL "AM"
02 28
03 SF 12
04 "ALT MIN
TAX"
05 XEQ "U"
06 XEQ "Z"
07 "AGI "
08 17
09 STO 00
10 XEQ "Z"
11 ADV
12 "LN2a1"
13 34
14 STO 00
15 XEQ "Z"
16 "LN2a2"
17 RCL 17
18 20
19 /
20 XEQ "V"
21 "LN2a3"
22 XEQ 13
23 STO 28
24 "LIN2b"
25 44
26 STO 00
27 XEQ "Y"
28 "LIN2c"
29 XEQ "Y"
30 "LIN2d"
31 40
32 STO 00
33 XEQ "Y"
34 ADV
35 "LN2e1"
36 CHS
37 RCL 43
38 RND
39 +
40 X<0?
41 CLX
42 STO 30
43 30
44 STO 00
45 XEQ "Z"
46 RCL 40
47 RND
48 +
49 STO 43
50 "LN2e2"
51 XEQ "Z"
52 "LN2e3"
53 RCL 30
54 RND
55 X>Y?
56 X<>Y
57 ST+ 28
58 XEQ "V"
59 "LIN2F"
60 XEQ "Y"
61 "LIN2G"
62 XEQ "Y"
63 "LIN2H"
64 RCL 28
65 XEQ "V"
66 "LINE3"
67 RCL 17
68 RND
69 X<>Y
70 -
71 STO 28
72 XEQ "X"
73 49
74 XEQ "T"
75 ADV
76 "a"
77 6
78 STO 00
79 XEQ 10
80 "b"
81 29
82 STO 00
83 XEQ 10
84 "c"
85 36
86 STO 00
87 XEQ 10
88 "d"
89 XEQ 10
90 "e"
91 XEQ 10
92 "F"
93 XEQ 10
94 "G"
95 1
96 ST+ 00
97 XEQ 10
98 ADV
99 "H"
100 XEQ 10
101 "I"
102 3
103 ST+ 00
104 XEQ 10
105 "J"
106 XEQ 10
107 "K"
108 XEQ 10
109 "LIN4L"
110 RCL 49
111 XEQ "X"
112 ADV
113 "LINE5"
114 RCL 28
115 RND
116 +
117 XEQ "V"
118 "LINE6"
119 4
120 GTO IND
01
121*LBL 03
122 1
123 -
124*LBL 04
125*LBL 01
126 1
127 -
128*LBL 05
129*LBL 02
130 1 E4
131 *
132 XEQ "V"
133 "LINE7"
134 XEQ 13
135 X=0?
136 GTO 09
137 "LINE8"
138 20
139 %
140 XEQ "V"
141 STO 28
142 "LINE9"
143 22
144 STO 00
145 XEQ "Z"
146 "LIN10"
147 XEQ 11
148 STO 28
149 "LIN11"
150 50
151 STO 00
152 XEQ "Z"
153 "LIN12"
154 XEQ 11
155*LBL 09
156 "AMTAX"
157 RND
158 STO 51
159 XEQ "V"
160 ADV
161 ADV
162 RTN
163 GTO 00
164*LBL 10
165 ASTO L
166 "LIN4"
167 ARCL L
168 XEQ "Y"
169 RTN
170*LBL 11
171 RCL 28
172*LBL 12
173 RND
174 X<>Y
175*LBL 13
176 RND
177 -
178 X<0?
179 CLX
180 XEQ "V"
181 .END.

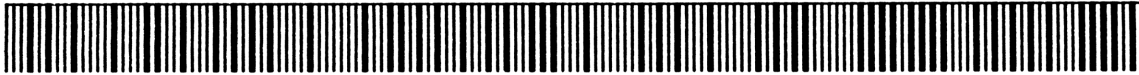
```

ALTERNATIVE MIN: TAX
PROGRAM NUMBER: 8 AM

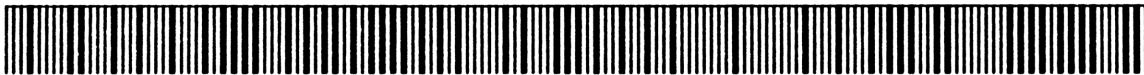
ROW 1: LINES 1-4



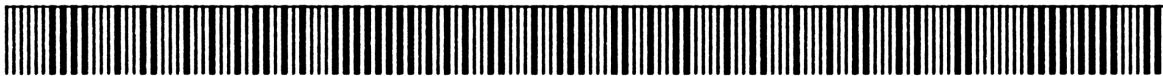
ROW 2: LINES 4-6



ROW 3: LINES 6-10



ROW 4: LINES 10-15



ROW 5: LINES 15-20



ROW 6: LINES 20-23



ROW 7: LINES 24-28



ROW 8: LINES 28-30



ROW 9: LINES 30-35



ROW 10: LINES 35-44



ROW 11: LINES 45-50



ROW 12: LINES 50-53



ALTERNATIVE MIN: TAX
PROGRAM NUMBER: : AM

ROW 13: LINES 54-59



ROW 14: LINES 59-62



ROW 15: LINES 63-66



ROW 16: LINES 66-72



ROW 17: LINES 72-79



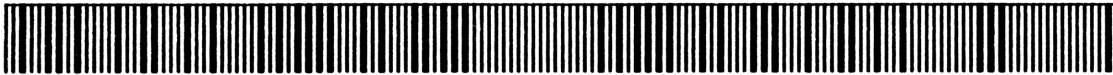
ROW 18: LINES 79-85



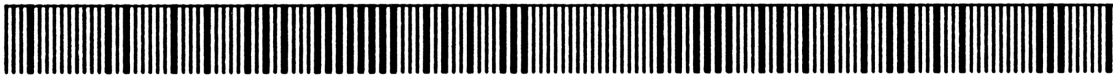
ROW 19: LINES 86-91



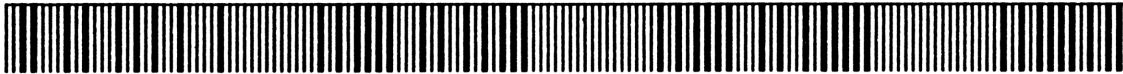
ROW 20: LINES 91-97



ROW 21: LINES 97-104



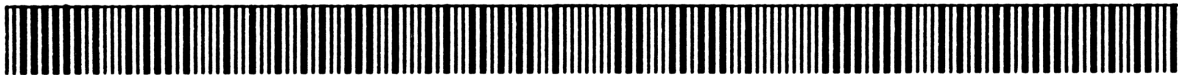
ROW 22: LINES 104-109



ROW 23: LINES 109-113



ROW 24: LINES 113-118



ALTERNATIVE MIN: TAX
PROGRAM NUMBER: : AM

ROW 25: LINES 118-126



ROW 26: LINES 127-133



ROW 27: LINES 133-137



ROW 28: LINES 137-142



ROW 29: LINES 142-146



ROW 30: LINES 146-149



ROW 31: LINES 150-154



ROW 32: LINES 154-159



ROW 33: LINES 159-166



ROW 34: LINES 166-173



ROW 35: LINES 174-181



PROGRAM DESCRIPTION

COMMON ROUTINES

PURPOSE -

The purpose of this program is to provide routines common to all programs in the package.

FEATURES/WARNINGS -

Most users will never want or need to know anything about this set of routines other than that they must reside in memory before any of the other tax programs can be run. For this reason, no description of the routines resides in this section. The following section deals with information important to the user who needs to know more about the routines.

PROGRAM DETAIL -

The routines program is 111 steps and 235 bytes (33.6 registers) long. It requires no other programs, though certain routines require each other. The routines access very few registers directly, only R00 and R27 are accessed in this way. The program, because of its use of register 27, "requires" the allocation of 28 data registers though certain routines are capable of accessing any data register and others access none.

The program has 11 entry points: global labels "O", "P", "Q", "S", "T", "U", "V", "W", "X", "Y" and "Z". The labels are intentionally short to save space in their declarations and, more importantly, in their calling. This results, though, in their being nonrepresentative of the routines' functions. Therefore, their descriptions follow.

"O" - This routine places a separator ("=====") on the printout. Its main purpose is to place this separator between the form 1040 program output and that of schedules A and G. The routine tests flag 55. The contents of stack register T and the ALPHA register are destroyed.

"P" - This routine selects between "input" and "non-input" modes. This is accomplished simply by toggling flag 00.

"Q" - Used only during the execution of the form 1040 program, this routine takes the first character of the alpha register contents and queries the user as to whether the tax schedule corresponding to the character is to be run. The prompt comes up in ALPHA mode, and only the character "Y" will cause the execution of the indicated program. Any other input will not cause the specified routine to be run. The routine destroys contents of the stack and the ALPHA register.

- "U" - This routine performs the most common program initialization functions. The ALPHA register is assumed to contain a desirable display/printout value. The X-register must contain either the number of the accumulator register (the current register in which some running total is to be kept) or zero. A zero indicates no accumulator. The text string "STATS" is left in the ALPHA register since, in most cases, this is the first prompt to come up in a program.
- "T" - Stores the location of the accumulator register in register 27, and clears it. Routine "U" may also access this routine.
- "W" - This routine calculates to user's zero bracket amount (the largest sum on which zero taxes can be paid). Since the filing status of the user is necessary for the calculation, register 01 is accessed. The routine consumes the X-, Y-, and L-registers.
- "S" - This routine takes the register address in register 00 and subtracts two from it. The indicated register is then recalled and the previous X- register is subtracted from it. If the result is negative, the X-register is cleared. This corresponds the the tax form statement "subtract line B from line A, if B is greater than A then enter 0." The routine optionally (flag 06 clear) stores the result in the register specified by register 00 and jumps to the "X" routine.
- "V", "X", "Y" and "Z" are all entry points to the same routine.
- "V" and "X" are used for output. "V" outputs with no register 00 increment while "X" increments. The output routines normally store no values but expect the line label in the ALPHA register and the line value in X. If flag 06 is set before the routine is entered, the routines will accumulate the line value in the currently specified register.
- "Y" and "Z" are used for input. "Z" performs the input prompt without adding the received value to that in the accumulator. "Y" performs the accumulation. The routines recall the last specified value for the current line and display its value with the line name (taken from the ALPHA register). The value in the X-register after the prompt (new or old) is then stored, rounded and accumulated (if specified). The register index is incremented, if specified.

The following flags are manipulated:

```

flag 00 : set - non-input mode
          clear - input mode
flag 05 : set - routine is for output
          clear - routine is for input
flag 06 : set - in routine "S", indicates that the value is
              not to be stored.
              Otherwise, set indicates that the value is to be
              added to the accumulator.
          clear - in "S" it enables the storage option.
              Otherwise, it disables the accumulator.
flag 08 : set - disables incrementation of the register pointer.
          clear - enables incrementation of the register pointer.
flag 12 : set - print double wide (for the printed program
              identifier)
          clear - print single wide
flag 21 : set - enable the printer, cause program execution to halt
              at display statements if the printer doesn't exist.
          clear - disable the printer, disable halts at display
              statements.

```

The following data registers are used directly:

```

00 = register index for data manipulation
27 = accumulator pointer

```

PROGRAM LISTING

```

01*LBL "O"      51 "STATS"      100 "F: "
02 "===== "  52 X=0?      101 RCL IND
03 ASTO T       53 RTN      00
04 ARCL T       54*LBL "T"    102 ARCL X
05 FS? 55       55 STO 27    103 FC? 00
06 AVIEW       56 CLX      104 PROMPT
07 RTN         57 STO IND    105 STO IND
08*LBL "P"     27          00
09 FC?C 00     58 RTN      106 ASTO T
10 SF 00       59*LBL "W"    107 CLA
11 RTN         60 17        108 ARCL T
12*LBL "Q"     61 GTO IND    109 "F "
13 ASTO T     01          110*LBL 00
14 "FS"       62*LBL 05      111 ARCL X
15 ASTO Z     63*LBL 02      112 FC? 55
16 "SCHED     64 11        113 FS?C 05
17 ARCL T     65 +          114 AVIEW
18 "F ?"     66*LBL 04      115 CLD
19 RDN       67*LBL 01      116 RND
20 STOP      68 6          117 FS?C 06
21 AOFF      69 +          118 ST+ IND
22 ASTO X    70*LBL 03      27
23 "Y"       71 1 E2       119 FC?C 08
24 ASTO Y    72 *          120 ISG 00
25 X=Y?      73 RTN        121 .END.
26 RTN       74*LBL "S"
27 SF 25     75 RCL 00
28 GTO IND   76 2
Z           77 -
29 CLA      78 RCL IND
30 ARCL Z   X
31 SF 25    79 X<>Y
32 GETP     80 RDN
33 FS?C 25  81 X<>Y
34 GTO IND  82 -
Z           83 X<0?
35 "LOAD ER 84 CLX
R"          85 FC? 06
36 PROMPT   86 STO IND
37 RTN     00
38*LBL "U"  87 GTO 06
39 CF 05    88*LBL "V"
40 CF 06    89 SF 03
41 CF 08    90*LBL "X"
42 CF 09    91*LBL 06
43 SF 21    92 SF 05
44 ADV      93 "F= "
45 AVIEW    94 GTO 00
46 ADV      95*LBL "Y"
47 CF 12    96 SF 06
48 1        97*LBL "Z"
49 STO 00   98 CF 05
50 RDN      99 CF 03

```

COMMON SUBROUTINES
PROGRAM NUMBER: 10

ROW 1: LINES 1-3



ROW 2: LINES 3-9



ROW 3: LINES 9-14



ROW 4: LINES 14-18



ROW 5: LINES 18-25



ROW 6: LINES 26-33



ROW 7: LINES 33-36



ROW 8: LINES 37-42



ROW 9: LINES 42-51



ROW 10: LINES 51-55



ROW 11: LINES 56-61



ROW 12: LINES 62-71



COMMON SUBROUTINES
PROGRAM NUMBER: : 0

ROW 13: LINES 72-79



ROW 14: LINES 80-88



ROW 15: LINES 88-92



ROW 16: LINES 93-96



ROW 17: LINES 97-100



ROW 18: LINES 101-108



ROW 19: LINES 108-115



ROW 20: LINES 116-121



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1984 Taxes

Form 1040

Schedule A, Itemized Deductions

Schedule G, Income Averaging

Schedule W, Married Couple Deduction

Tax Rate Schedules

Schedule D, Capital Gains/Losses

Form 6251, Alternative Minimum Tax

Common Routines

