

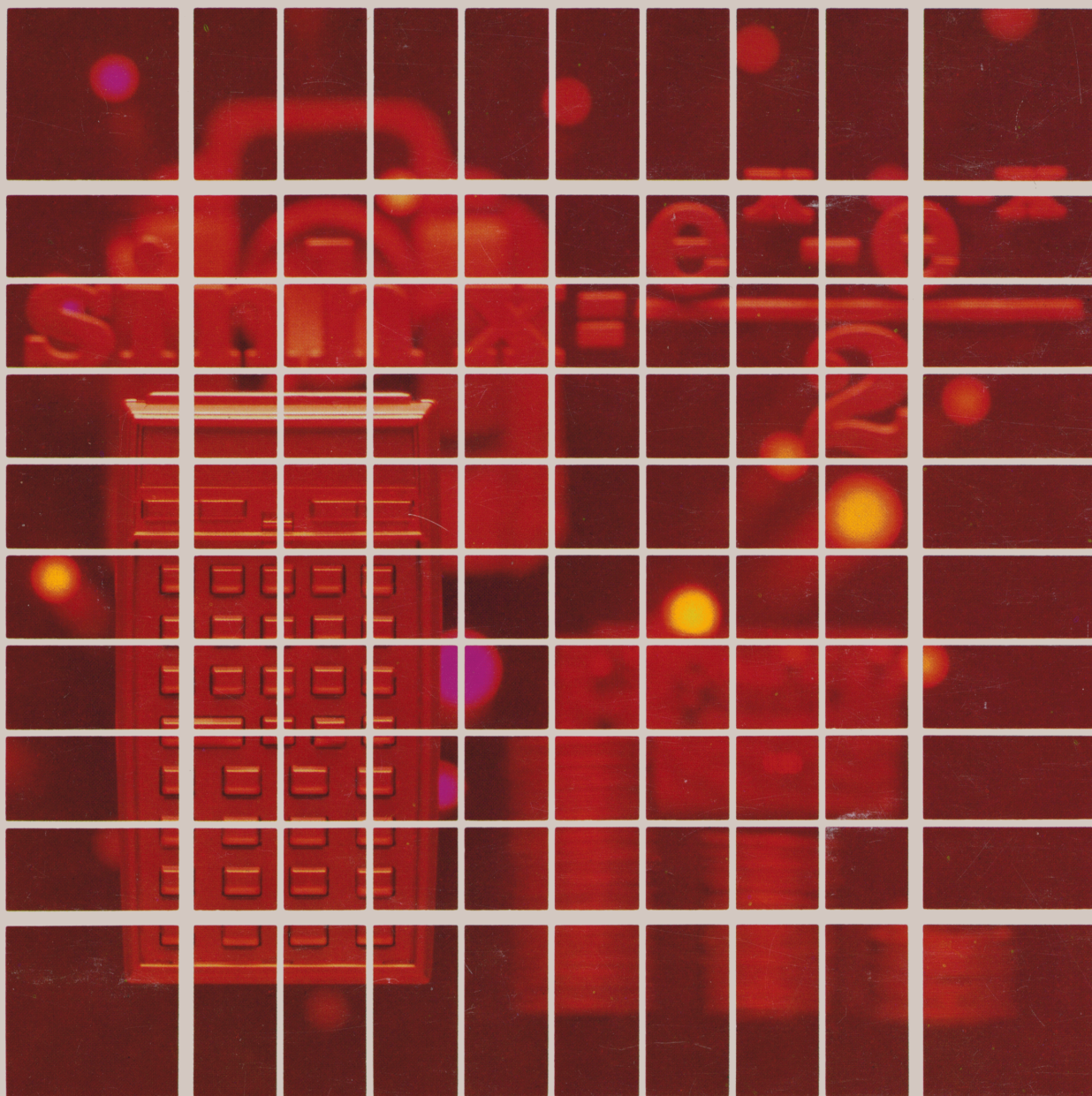
Includes barcode for easy software entry.

HEWLETT-PACKARD

HP-41

USERS' LIBRARY SOLUTIONS

1983 Taxes



## **NOTICE**

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## 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 and 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  $\times$  . When you see  $\times$  in the program listing, press **x** .
  - e. The † character in the program listing is an indication of the **APPEND** function. When you see †, press **■** **APPEND** in ALPHA mode (press **■** and the K key).
  - f. All operations requiring register addresses accept those addresses in these forms:
    - nn (a two-digit number)
    - IND nn (INDIRECT: **■** , followed by a two-digit number)
    - X, Y, Z, T, or L (a STACK address: **□** followed by X, Y, Z, T, or L)
    - IND X, Y, Z, T or L (INDIRECT stack: **■** **□** followed by X, Y, Z, T, or L)

Indirect addresses are specified by pressing **■** and then the indirect address. Stack addresses are specified by pressing **□** followed by X, Y, Z, T, or L. Indirect stack addresses are specified by pressing **■** **□** and X, Y, Z, T, or L.

Printer Listing	Keystrokes	Display
<pre> 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                     </pre>	<pre> <b>■</b> <b>ALPHA</b> <b>ALPHA</b> SAMPLE <b>ALPHA</b> <b>ALPHA</b> THIS IS A <b>ALPHA</b> <b>ALPHA</b> <b>■</b> <b>APPEND</b> SAMPLE <b>■</b> AVIEW <b>ALPHA</b> 6 <b>ENTER</b>† 2 <b>CHS</b> + <b>XEQ</b> <b>ALPHA</b> ABS <b>ALPHA</b> <b>STO</b> <b>■</b> <b>□</b> L <b>ALPHA</b> R3= <b>■</b> <b>ARCL</b> 03 <b>■</b> <b>AVIEW</b> <b>ALPHA</b> <b>■</b> <b>RTN</b>                     </pre>	<pre> 01 LBL<sup>T</sup> SAMPLE 02<sup>T</sup> THIS IS A 03<sup>T</sup> † SAMPLE 04 AVIEW 05 6 06 ENTER † 07 -2 08 / 09 ABS 10 STO IND L 11<sup>T</sup> R3= 12 ARCL 03 13 AVIEW 14 RTN                     </pre>



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All programs are based on original code written by Anthony A. Vertuno





# 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 that 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 pensions/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 will 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 be either 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

Fill out the form on pages 7 and 8.

The following example assumes:

- \* that programs "FT" (form 1040), "T3" (1983 tax rate), 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.	2	[R/S]*	Identifies the program.
EXMPT: 0.	4	[R/S]	Lines 1-5, filing status.
		[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.
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.

DISPLAY	INPUT	KEYSTROKES	COMMENTS
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 21, other income.
TOTIN= 49,993.		[R/S]*	Line 22, total income.
EXPNS: 0.		[R/S]	Line 23, moving expense.
IRA : 0.	2000	[R/S]	Line 25, payments to an IRA.
SCH W: 0.	348	[R/S]	Line 29, Deduction for a married couple when both work
TOTAD= 2,348.		[R/S]*	Line 31, total adjustments.
AGI = 47,645.		[R/S]*	Line 32, 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 34.
EXMP\$= 4,000.		[R/S]*	Line 36, line 6e x 1000.
TXABL= 40,938.		[R/S]*	Line 37, taxable income.
TX83T= 8,628.		[R/S]*	Line 38, 1983 tax. If program "T4" were loaded instead of "T3" the line name would read "84" instead of "83". 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" causes the program to try to execute the Schedule G program. Any other response continues the current program.
CRDIT: 0. NETTX= 8,504.	124	[R/S] [R/S]*	Line 48, total credits. Line 49, the difference between lines 40 and 48.
OTHTX: 0.		[R/S]	The total of lines 50 through 55.
TOTTX= 8,504.		[R/S]*	Line 56, total tax. The sum of lines 49 through 55.
TOTPD: 0.	7855	[R/S]	Line 64, total tax paid. The sum of lines 57 through 63.
BLDUE= 649.		[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".
649.			This is a superfluous value left in the X-register.

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

For the year January 1-December 31, 1983, or other tax year beginning 1983, 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? If joint return, does your spouse want \$1 to go to this fund? Note: Checking "Yes" will not increase your tax or reduce your refund.

Filing Status 1 Single 2 Married filing joint return (even if only one had income) 3 Married filing separate return. Enter spouse's social security no. above and full name here. 4 Head of household (with qualifying person). (See page 6 of Instructions.) If the qualifying person is your unmarried child but not your dependent, write child's name here. 5 Qualifying widow(er) with dependent child (Year spouse died > 19). (See page 6 of Instructions.)

Exemptions 6a Yourself 65 or over Blind 6b Spouse 65 or over Blind c First names of your dependent children who lived with you: BILL & DAVE d Other dependents: (1) Name (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? e Total number of exemptions claimed: 4

Income 7 Wages, salaries, tips, etc. 8 Interest income (also attach Schedule B if over \$400 or you have any All-Savers interest) 9a Dividends (also attach Schedule B if over \$400) 9b Exclusion 9c Subtract line 9b from line 9a and enter the result 10 Refunds of State and local income taxes, from worksheet on page 10 of Instructions (do not enter an amount unless you deducted those taxes in an earlier year—see page 10 of Instructions) 11 Alimony received 12 Business income or (loss) (attach Schedule C) 13 Capital gain or (loss) (attach Schedule D) 14 40% capital gain distributions not reported on line 13 (See page 10 of Instructions) 15 Supplemental gains or (losses) (attach Form 4797) 16 Fully taxable pensions, IRA distributions, and annuities not reported on line 17 17a Other pensions and annuities, including rollovers. Total received 17b Taxable amount, if any, from worksheet on page 10 of Instructions 18 Rents, royalties, partnerships, estates, trusts, etc. (attach Schedule E) 19 Farm income or (loss) (attach Schedule F) 20a Unemployment compensation (insurance). Total received 20b Taxable amount, if any, from worksheet on page 11 of Instructions 21 Other income (state nature and source—see page 11 of Instructions) 22 Total income. Add amounts in column for lines 7 through 21

Adjustments to Income (See Instructions on page 11) 23 Moving expense (attach Form 3903 or 3903F) 24 Employee business expenses (attach Form 2106) 25a IRA deduction, from the worksheet on page 12 25b Enter here IRA payments you made in 1984 that are included in line 25a above 26 Payments to a Keogh (H.R. 10) retirement plan 27 Penalty on early withdrawal of savings 28 Alimony paid 29 Deduction for a married couple when both work (attach Schedule W) 30 Disability income exclusion (attach Form 2440) 31 Total adjustments. Add lines 23 through 30

Adjusted Gross Income 32 Adjusted gross income. Subtract line 31 from line 22. 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 3 of Instructions

Tax Computation

(See Instructions on page 13)

33 Amount from line 32 (adjusted gross income) 33 47,645
34a If you itemize, complete Schedule A (Form 1040) and enter the amount from Schedule A, line 28. 34a 2,707
Caution: If you have unearned income and can be claimed as a dependent on your parent's return, check here [ ] and see page 13 of the Instructions. Also see page 13 of the Instructions 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.
34b If you do not itemize deductions on Schedule A (Form 1040), complete the worksheet on page 14. Then enter the allowable part of your charitable 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 [X] Tax Table, [ ] Tax Rate Schedule X, Y, or Z, or [ ] Schedule G 38 8,628
39 Additional Taxes. (See page 14 of Instructions.) Enter here and check if from [ ] Form 4970, [ ] Form 4972, [ ] Form 5544, or [ ] section 72 penalty taxes 39

Credits

(See Instructions on page 14)

40 Total. Add lines 38 and 39. 40 8,628
41 Credit for the elderly (attach Schedules R&RP). 41
42 Foreign tax credit (attach Form 1116) 42
43 Investment credit (attach Form 3468) 43
44 Partial credit for political contributions 44
45 Credit for child and dependent care expenses (attach Form 2441) 45
46 Jobs credit (attach Form 5884) 46
47 Residential energy credit (attach Form 5695) 47
48 Total credits. Add lines 41 through 47 48 124

Other Taxes

(Including Advance EIC Payments)

49 Balance. Subtract line 48 from line 40 and enter difference (but not less than zero) 49 8,504
50 Self-employment tax (attach Schedule SE) 50
51 Alternative minimum tax (attach Form 6251) 51
52 Tax from recapture of investment credit (attach Form 4255) 52
53 Social security tax on tip income not reported to employer (attach Form 4137) 53
54 Uncollected employee social security tax and RRTA tax on tips (from Form W-2) 54
55 Tax on an IRA (attach Form 5329) 55

06 Payments

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

56 Total tax. Add lines 49 through 55 56 8,504
57 Federal income tax withheld 57
58 1983 estimated tax payments and amount applied from 1982 return 58
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 special fuels and oils (attach Form 4136) 62
63 Regulated Investment Company credit (attach Form 2439) 63

Refund or Amount You Owe

64 Total payments. Add lines 57 through 63 64 7,855
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 1984 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 "1983 Form 1040" on it 68 649
(Check [ ] if Form 2210 (2210F) is attached. See page 17 of Instructions.) \$

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

Paid Preparer's Use Only

Preparer's signature Date Check if self-employed [ ] 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) "T2" ('82 tax tables) or "T3" ('83 tax tables) "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

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
15. Enter line 12: business income or loss. (+ or -)	bus. inc.	[R/S] SCH D: x	
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 21: other income.	other inc.	[R/S]	TOTIN= x
19. Output line 22: total income.		*[R/S]	EXPNS: x
20. Enter line 23: employee moving expense.	expense	[R/S]	IRA : x
21. Enter line 25: payments to an IRA.	IRA payment	[R/S]	SCH W: x
22. Enter line 29: 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

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
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
27. Output line 35: the difference between lines 33 and 34.		*[R/S]	EXMP\$= x
28. Output line 36: line 6e x 1000.		*[R/S]	TXABL= x
29. Output line 37: taxable income.		*[R/S]	TX82T= x
30. Output line 38, 1983 tax. If program "T4" were loaded instead of "T3" the line name would read "84" instead of "83". 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" 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

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
32. Enter line 48: total credits.	total	[R/S]	NETTX= x
33. Output line 49: the difference between lines 40 and 48.		*[R/S]	OTHTX: x
34. Enter the total of lines 50 through 55.	total	[R/S]	TOTTX= x
35. Output line 56: total tax, the sum of lines 49 through 55.		*[R/S]	TOTPD: x
36. Enter line 64: total tax paid, the sum of lines 57 through 63.	paid	[R/S]	BLDUE= x
37. Output 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".		*[R/S]	x
This is a superfluous value left in the X-register.			

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

#### PROGRAM DETAIL -

The form 1040 program is 160 steps and 440 bytes (62.9 registers) long. It requires two other programs: one of the tax table programs and the miscellaneous routines programs. The two tax programs are 350 and 374 bytes each while the routines program is 235 bytes. At a minimum, 29 data registers are needed, totalling 175.4 or 178.9 registers for operation.

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

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 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 23: moving 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: adjusted gross income  
\* 18 = line 34: itemized deductions  
19 = line 35: line 33 (32) minus line 34  
20 = line 36: line 6e \* 1000  
\* 21 = line 37: taxable income (line 36 from 35)  
\* 22 = line 38: tax; tax after averaging; line 49: tax after credits  
23 = line 48: total credits  
24 = lines 50 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 "DEDCT"
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
```

# PROGRAM LISTING

```
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 "CREDIT"
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 1040

PROGRAM REGISTERS NEEDED: 64

ROW 1 (1 : 4)



ROW 2 (4 : 6)



ROW 3 (7 : 10)



ROW 4 (10 : 13)



ROW 5 (13 : 16)



ROW 6 (16 : 18)



ROW 7 (19 : 22)



ROW 8 (23 : 26)



ROW 9 (26 : 28)



ROW 10 (28 : 31)



ROW 11 (32 : 36)



ROW 12 (37 : 40)



ROW 13 (40 : 42)



ROW 14 (42 : 46)



ROW 15 (46 : 51)



ROW 16 (52 : 58)



ROW 17 (59 : 62)



ROW 18 (63 : 69)



FORM 1040

ROW 19 (69 : 71)



ROW 20 (72 : 78)



ROW 21 (78 : 81)



ROW 22 (81 : 89)



ROW 23 (90 : 97)



ROW 24 (98 : 106)



ROW 25 (107 : 117)



ROW 26 (118 : 123)



ROW 27 (123 : 131)



ROW 28 (131 : 134)



ROW 29 (135 : 139)



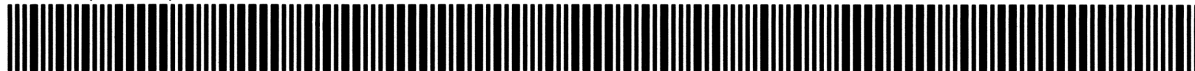
ROW 30 (139 : 143)



ROW 31 (143 : 147)



ROW 32 (147 : 150)



ROW 33 (150 : 155)



ROW 34 (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

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 STATS: 0.	2	[XEQ] "SA" [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.
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. 1%AGI= 476.	512	[R/S] [R/S]	Line 1: medicine and drugs. Line 2: 1% of line 33 form 1040.
NTDRG= 36.		[R/S]*	Line 3: line 2 from line 1.

DISPLAY	INPUT	KEYSTROKES	COMMENTS
DCTRS: 0.	2340	[R/S]	Line 4a: doctors, dentists, nurses, hospitals, etc.
TRNSP: 0.	85	[R/S]	Line 4b: transportation.
OTHER: 0.	264	[R/S]	Line 4c: other medical expenses.
TOTAL= 2,725.		[R/S]*	Line 5: add lines 3 through 4c.
5%AGI= 2,382.		[R/S]*	Line 6: 5% of line 33 form 1040.
NETMD= 343.		[R/S]*	Line 7: line 6 from line 5.
SLITX: 0.	1373	[R/S]	Line 8: state and local income tax.
RESTX: 0.	833	[R/S]	Line 9: real estate tax.
SLSTX: 0.	325	[R/S]	Line 10: sales tax.
OTHER: 0.		[R/S]	Line 11: other taxes.
TOTTX= 2,531.		[R/S]*	Line 12: total tax.
MORTG: 0.	2377	[R/S]	Line 13: home mortgage interest paid to financial institutions.
CDTCD: 0.	62	[R/S]	Line 14: credit cards and charge accounts.
OTHER: 0.		[R/S]	Line 15: other interest expenses.
TOTIN= 2,439.		[R/S]*	Line 16: total interest expense.
CNTRB: 0.	560	[R/S]	Line 20: total contributions.
CSLTY: 0.		[R/S]	Line 21: total casualty or theft loss.
DUES : 0.	150	[R/S]	Line 22: union and professional dues.
TXPRP: 0.	40	[R/S]	Line 23: tax preparation fee.
OTHER: 0.	44	[R/S]	Line 24: other miscellaneous deductions.
TOTMS= 234.		[R/S]*	Line 25: total misc. losses and deductions.
GRDED= 6,107.		[R/S]*	Line 26: gross deductions.
ZBRAM= 3,400.		[R/S]*	Line 27: zero bracket amount.
DEDCT= 2,707.		[R/S]*	Line 28: adjusted deductions.
			If this program was called from the 1040 program, control will be passed back to that program after this display.
2,707.			Superfluous number left in the X-register.

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

**SCHEDULES A&B  
(Form 1040)**

Department of the Treasury  
Internal Revenue Service (0)

**Schedule A—Itemized Deductions**

(Schedule B is on back)

▶ Attach to Form 1040. ▶ See Instructions for Schedules A and B (Form 1040).

OMB No. 1545-0074

**1983**  
07

Name(s) as shown on Form 1040

Your social security number

<b>Medical and Dental Expenses</b> <i>(Do not include expenses reimbursed or paid by others.)</i> <i>(See page 18 of Instructions.)</i>	1	Medicines and drugs . . . . .	1	512			
	2	Write 1% of Form 1040, line 33. . . . .	2	476			
	3	Subtract line 2 from line 1. If line 2 is more than line 1, write zero . . . . .	3		36		
	4	Other medical and dental expenses:					
	a	Doctors, dentists, nurses, hospitals, insurance premiums you paid for medical and dental care, etc. . . . .	4a		2,340		
	b	Transportation . . . . .	4b		85		
	c	Other (list—include hearing aids, dentures, eyeglasses, etc.) ▶ ..... ..... .....	4c		264		
5	Add lines 3 through 4c . . . . .	5		2,725			
6	Multiply amount on Form 1040, line 33, by 5% (.05) . . . . .	6		2,382			
7	Subtract line 6 from line 5. If line 6 is more than line 5, write zero . . . . .				7	343	
<b>Taxes</b> <i>(See page 19 of Instructions.)</i>	8	State and local income . . . . .	8		1,373		
	9	Real estate . . . . .	9		833		
	10a	a General sales (see sales tax tables) . . . . .	10a		325		
	10b	b General sales on motor vehicles . . . . .	10b				
	11	Other (list—include personal property) ▶ ..... .....	11				
12	Add lines 8 through 11. Write your answer here . . . . .				12	2,531	
<b>Interest Expense</b> <i>(See page 20 of Instructions.)</i>	13a	a Home mortgage interest paid to financial institutions . . . . .	13a		2,377		
	13b	b Home mortgage interest paid to individuals (show that person's name and address) ▶ ..... .....	13b				
	14	Credit cards and charge accounts . . . . .	14		62		
	15	Other (list) ▶ ..... .....	15				
16	Add lines 13a through 15. Write your answer here . . . . .				16	2,439	
<b>Contributions</b> <i>(See page 20 of Instructions.)</i>	17a	a Cash contributions. (If you gave \$3,000 or more to any one organization, report those contributions on line 17b.) . . . . .	17a				
	17b	b Cash contributions totaling \$3,000 or more to any one organization. (Show to whom you gave and how much you gave.) ▶ ..... .....	17b				
	18	Other than cash (attach required statement) . . . . .	18		560		
	19	Carryover from prior year . . . . .	19				
20	Add lines 17a through 19. Write your answer here . . . . .				20	560	
<b>Casualty and Theft Losses</b>	21	Total casualty or theft loss(es) (attach Form 4684) (see page 20 of Instructions) . . . . .				21	
<b>Miscellaneous Deductions</b> <i>(See page 21 of Instructions.)</i>	22	Union and professional dues . . . . .	22		150		
	23	Tax return preparation fee . . . . .	23		40		
	24	Other (list) ▶ ..... .....	24		44		
	25	Add lines 22 through 24. Write your answer here . . . . .				25	234
<b>Summary of Itemized Deductions</b> <i>(See page 21 of Instructions.)</i>	26	Add lines 7, 12, 16, 20, 21, and 25 . . . . .	26				6,107
	27	If you checked Form 1040 { Filing Status box 2 or 5, write \$3,400 } { Filing Status box 1 or 4, write \$2,300 } { Filing Status box 3, write \$1,700 }	27				3,400
	28	Subtract line 27 from line 26. Write your answer here and on Form 1040, line 34a. (If line 27 is more than line 26, see the Instructions for line 28 on page 21.) . . . . .	28				2,707



# USER INSTRUCTIONS

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
=====			
1. At a minimum, load the following programs: "SA" (schedule A) "O" (misc. routines). 2) Allocate data registers (minimum 51).		[shift][GTO] .. [shift][GTO] .. [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. AGI : x	status	[R/S]	
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]	1%AGI= x
10. Output line 2: 1% of line 33 form 1040.		*[R/S]	LINE3= x
11. Output line 3: line 2 from line 1. If less than 0, output 0.		*[R/S]	DCTRS: x

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

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
28. Enter line 21: total casualty or theft loss.	casualty	[R/S]	DUES : x
29. Enter line 22: union and professional dues.	dues	[R/S]	TXPRP: x
30. Enter line 23: tax preparation fee.	tax prep.	[R/S]	OTHER: x
31. Enter line 24: other miscellaneous deductions.	other misc.	[R/S]	TOTMS= x
32. Output of line 25: total miscellaneous deductions.		*[R/S]	GRDED= x
33. Output of line 26: gross deductions.		*[R/S]	ZBRAM= x
34. Output of line 27: zero bracket amount.		*[R/S]	DEDCT= x
35. Output of line 28: net deductions. If this program was called from the 1040 program, control will be passed back to that program after this display.		*[R/S]	x
36. This is a superfluous value 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 129 steps and 396 bytes (56.6 registers) long. It requires one other program: the miscellaneous routines program - 235 bytes, 33.6 registers. At a minimum, 51 data registers are needed, totalling 141.1 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 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 33, form 1040: deductions
- \* 27 = accumulator index
- 30 = Line 1: medicines and drugs
- 31 = Line 4a: doctors, dentists, nurses, hospitals, etc.
- 32 = Line 4b: medical transportation
- 33 = Line 4c: other medical expenses
- \* 34 = Line 5: total medical expenses
- 35 = Line 8: state and local income tax
- 36 = Line 9: real estate tax
- 37 = Line 10: sales tax
- 38 = Line 11: other taxes
- 39 = Line 12: total tax
- \* 40 = Line 13: home mortgage interest paid
- 41 = Line 14: credit cards and charge accounts
- 42 = Line 15: other interest expenses
- \* 43 = Line 16: total interest expense
- \* 44 = Line 20: total contributions
- \* 45 = Line 21: total casualty or theft loss
- 46 = Line 22: union and professional dues
- 47 = Line 23: tax preparation fee
- 48 = Line 24: other miscellaneous deductions
- 49 = Line 25: total miscellaneous deductions
- 50 = Line 26: 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 XEQ "O"
09*LBL 00
10 34
11 "SCHEDUL
E A"
12 XEQ "U"
13 FC? 10
14 XEQ "Z"
15 17
16 STO 00
17 "AGI "
18 FC? 10
19 XEQ "Z"
20 FC? 10
21 ADV
22 30
23 STO 00
24 "DRUGS"
25 XEQ "Z"
26 "1%AGI"
27 RCL 17
28 1
29 %
30 XEQ "X"
31 "NTDRG"
32 SF 06
33 XEQ "S"
34 2
35 ST- 00
36 "DCTRS"
37 XEQ "Y"
38 "TRNSP"
39 XEQ "Y"
40 "OTHER"
41 XEQ "Y"
42 "TOTAL"
43 RCL 34
44 XEQ "X"
45 "5%AGI"
46 RCL 17
47 5
48 %
49 XEQ "X"
50 "NTMED"
51 SF 06
52 XEQ "S"
53 STO 34
54 STO 50
55 ADV
56 2
57 ST- 00
58 39
59 XEQ "T"
60 "SLITX"
61 XEQ "Y"
62 "RESTX"
63 XEQ "Y"
64 "SLSTX"
65 XEQ "Y"
66 "OTHER"
67 XEQ "Y"
68 "TOTTX"
69 RCL 39
70 RND
71 ST+ 50
72 XEQ "X"
73 ADV
74 43
75 XEQ "T"
76 "MORTG"
77 XEQ "Y"
78 "CDTCD"
79 XEQ "Y"
80 "OTHER"
81 XEQ "Y"
82 "TOTIN"
83 RCL 43
84 RND
85 ST+ 50
86 XEQ "X"
87 ADV
88 "CNTRB"
89 XEQ "Z"
90 ST+ 50
91 ADV
92 "CSLTY"
93 XEQ "Z"
94 ST+ 50
95 ADV
96 49
97 XEQ "T"
98 "DUES "
99 XEQ "Y"
100 "TXPRP"
101 XEQ "Y"
102 "OTHER"
103 XEQ "Y"
```

# PROGRAM LISTING

```
104 "TOTMS"  
105 RCL 49  
106 RND  
107 ST+ 50  
108 XEQ "X"  
109 ADV  
110 "GRDED"  
111 RCL 50  
112 XEQ "X"  
113 "ZBRAM"  
114 XEQ "W"  
115 XEQ "X"  
116 18  
117 STO 00  
118 RDN  
119 "DEDCT"  
120 -  
121 X<0?  
122 CLX  
123 STO 18  
124 FS? 10  
125 RTN  
126 XEQ "X"  
127 ADV  
128 ADV  
129 .END.
```

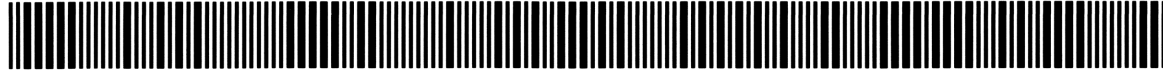
ITEMIZED DEDUCTIONS

PROGRAM REGISTERS NEEDED: 58

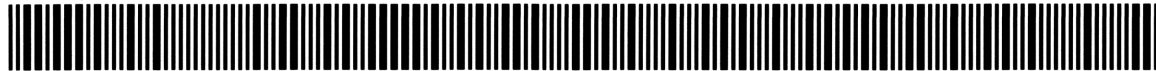
ROW 1 (1 : 5)



ROW 2 (5 : 9)



ROW 3 (10 : 11)



ROW 4 (12 : 17)



ROW 5 (17 : 22)



ROW 6 (22 : 26)



ROW 7 (26 : 31)



ROW 8 (31 : 36)



ROW 9 (36 : 38)



ROW 10 (38 : 41)



ROW 11 (42 : 45)



ROW 12 (45 : 50)



ROW 13 (50 : 54)



ROW 14 (55 : 60)



ROW 15 (60 : 63)



ROW 16 (63 : 66)



ROW 17 (66 : 69)



ROW 18 (69 : 75)



ITEMIZED DEDUCTIONS

ROW 19 (76 : 78)



ROW 20 (78 : 81)



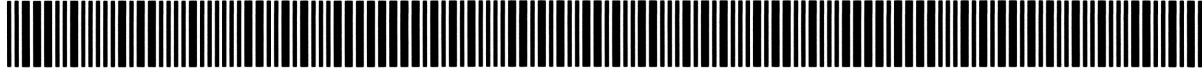
ROW 21 (81 : 86)



ROW 22 (86 : 90)



ROW 23 (90 : 94)



ROW 24 (95 : 99)



ROW 25 (99 : 102)



ROW 26 (102 : 104)



ROW 27 (105 : 110)



ROW 28 (110 : 113)



ROW 29 (114 : 119)



ROW 30 (119 : 126)



ROW 31 (126 : 129)





# 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 "LIN13= 26,853.",

"LIN13" is an abbreviation for "line 13",  
"=" 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 9, 13 or 15, he/she can not use this program to complete the form.

The following Schedule G lines have been omitted:

- \* Line 9: income earned outside of the U.S.,
- \* Line 13: premature excessive distribution penalty,  
Line 14: Line 13 from line 12,
- \* Line 15: community property state and separate returns,  
Line 16: line 15 from line 14,  
Line 17: copy of line 11,  
Line 22: tax on line 15,  
Line 29: tax on line 14,  
Line 31: line 30 from 29.

\* 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

Fill out the form on page 37.

The example assumes:

- \* that programs "SG" (Schedule G), "T3" (1983 tax rate schedule) and "O" (common subroutines) have been loaded into memory.
- \* there are 60 available data registers (i.e., SIZE has been set to a number greater than 59).
- \* 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]* [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.
79INC: 0.	22850	[R/S]	Line 1: 1979 form 1040, line 34.
EXMP\$: 0.	2000	[R/S]	Line 2: 1979 exemptions *1000
NET = 20,850.		[R/S]*	Line 3: line 2 from line 1.
80INC: 0.	25680	[R/S]	Line 4: 1980 form 1040, line 34.
EXMP\$: 0.	2000	[R/S]	Line 5: 1980 exemptions *1000
NET = 23,680.		[R/S]*	Line 6: line 5 from line 4.
81INC: 0.	18470	[R/S]	Line 7: 1981 form 1040, line 34.

DISPLAY	INPUT	KEYSTROKES	COMMENTS
82INC: 0.	26510	[R/S]	Line 8: 1982 form 1040, line 34.
TOTAL= 89,510.		[R/S]*	Line 10: sum of lines 3, 6, 7, 8 and 9.
LIN11= 26,853.		[R/S]*	Line 10 * 0.3
83INC: 0.	40938	[R/S]	Line 12: 1983 form 1040, line 37.
LIN18= 14,085.		[R/S]*	Line 11 from line 12.
LIN19= 2,817.		[R/S]*	Line 18 * 0.2
LIN20= 26,853.		[R/S]*	Copy of line 11.
21,23= 29,670.		[R/S]*	Line 19 + line 20.
24,25= 4,974.		[R/S]*	Tax on line 23. Note that there is a slight delay before this value is displayed.
LIN26= 4,242.		[R/S]*	Tax on line 20. Note that there is a slight delay before this value is displayed.
LIN27= 732.		[R/S]*	Line 26 from 25.
LIN28= 2,928.		[R/S]*	Line 27 * 4.
SGTAX= 7,902. 7,902.		[R/S]*	Line 24 + line 28. Superfluous number 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 (0)

# Income Averaging

OMB No. 1545-0074

**1983**  
17

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

Name(s) as shown on Form 1040

Your social security number

## Step 1 Figure your income for 1979—1982

<b>1979</b>	<b>1</b>	Fill in the amount from your 1979 Form 1040 (line 34) or Form 1040A (line 11) . . . . .	<b>1</b>	<b>22,850</b>		
	<b>2</b>	Multiply your total exemptions in 1979 by \$1,000 . . . . .	<b>2</b>	<b>2,000</b>		
	<b>3</b>	Subtract line 2 from line 1. If less than zero, enter zero . . . . .	<b>3</b>		<b>20,850</b>	
<b>1980</b>	<b>4</b>	Fill in the amount from your 1980 Form 1040 (line 34) or Form 1040A (line 11) . . . . .	<b>4</b>	<b>25,650</b>		
	<b>5</b>	Multiply your total exemptions in 1980 by \$1,000 . . . . .	<b>5</b>	<b>2,000</b>		
	<b>6</b>	Subtract line 5 from line 4. If less than zero, enter zero . . . . .	<b>6</b>		<b>23,650</b>	
<b>1981</b>	<b>7</b>	Fill in the amount from your 1981 Form 1040 (line 34) or Form 1040A (line 12). If less than zero, enter zero . . . . .	<b>7</b>		<b>18,470</b>	
<b>1982</b>	<b>8</b>	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 . . . . .	<b>8</b>		<b>26,510</b>	
<b>Total</b>	<b>9</b>	Fill in all income less deductions earned outside of the U.S. or within U.S. possessions and excluded for 1979 through 1982 (include housing exclusion in 1982) . . . . .	<b>9</b>			
	<b>10</b>	Add lines 3, 6, 7, 8 and 9 . . . . .	<b>10</b>		<b>89,510</b>	

## Step 2 Figure your averageable income

		Multiply the amount on line 10 by 30% (.30) . . . . .			<b>x .30</b>	
<b>11</b>		Write in the answer . . . . .	<b>11</b>		<b>26,853</b>	
<b>12</b>		Fill in your taxable income for 1983 from Form 1040, line 37 . . . . .	<b>12</b>		<b>40,938</b>	
<b>13</b>		If you received a premature or excessive distribution subject to a penalty under section 72, see instructions . . . . .	<b>13</b>			
<b>14</b>		Subtract line 13 from line 12 . . . . .	<b>14</b>			
<b>15</b>		If you live in a community property state and are filing a separate return, see instructions . . . . .	<b>15</b>			
<b>16</b>		Subtract line 15 from line 14. If less than zero, enter zero . . . . .	<b>16</b>			
<b>17</b>		Write in the amount from line 11 above . . . . .	<b>17</b>			
<b>18</b>		Subtract line 17 from line 16. This is your averageable income . . . . .	<b>18</b>		<b>14,085</b>	

**If line 18 is \$3,000 or less, do not complete the rest of this form. You do not qualify for income averaging.**

## Step 3 Figure your tax

		Multiply the amount on line 18 by 20% (.20) . . . . .			<b>x .20</b>	
<b>19</b>		Write in the answer . . . . .	<b>19</b>		<b>2,817</b>	
<b>20</b>		Write in the amount from line 11 above . . . . .	<b>20</b>		<b>26,853</b>	
<b>21</b>		Add lines 19 and 20 . . . . .	<b>21</b>		<b>29,670</b>	
<b>22</b>		Write in the amount from line 15 above . . . . .	<b>22</b>			
<b>23</b>		Add lines 21 and 22 . . . . .	<b>23</b>		<b>29,670</b>	
<b>24</b>		Tax on amount on line 23 (from Tax Rate Schedule X, Y, or Z) . . . . .	<b>24</b>		<b>4,974</b>	
<b>25</b>		Tax on amount on line 21 (from Tax Rate Schedule X, Y, or Z) . . . . .	<b>25</b>	<b>4,974</b>		
<b>26</b>		Tax on amount on line 20 (from Tax Rate Schedule X, Y, or Z) . . . . .	<b>26</b>	<b>4,242</b>		
<b>27</b>		Subtract line 26 from line 25 . . . . .	<b>27</b>	<b>732</b>		
		Multiply the amount on line 27 by 4 . . . . .			<b>x 4</b>	
<b>28</b>		Write in the answer . . . . .	<b>28</b>		<b>2,928</b>	
		<i>If you have no entry on line 13, skip lines 29 through 31 and go to line 32.</i>				
<b>29</b>		Tax on amount on line 12 (from Tax Rate Schedule X, Y, or Z) . . . . .	<b>29</b>			
<b>30</b>		Tax on amount on line 14 (from Tax Rate Schedule X, Y, or Z) . . . . .	<b>30</b>			
<b>31</b>		Subtract line 30 from line 29 . . . . .	<b>31</b>			
<b>32</b>		Add lines 24, 28, and 31. Write the result here and on Form 1040, line 38. Be sure to check the Schedule G box on that line . . . . .	<b>32</b>		<b>7,902</b>	

# USER INSTRUCTIONS

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
=====			
1. At a minimum, load the following programs: "SG" (form 1040) "T3" ('83 tax tables) or "T4" ('84 tax tables) "O" (misc. routines).		[shift][GTO] .. [shift][GTO] .. [shift][GTO] ..	
2. Allocate data registers (minimum 60).		[XEQ] "SIZE" 060	
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: your filing status. If this program was called from the 1040 program, this prompt will be skipped.	status	[R/S]	79INC: x
8. Input line 1: 1979 form 1040, line 34.	line 34	[R/S]	EXMP\$: x
9. Input 1979 exemptions * \$1000.	exemptions	[R/S]	NET = x
10. Output of line 3: line 2 from line 1.		[R/S]*	80INC: x
11. Input line 4: 1980 form 1040, line 34.	line 34	[R/S]	EXMP\$: x
12. Input 1980 exemptions * \$1000.	exemptions	[R/S]	NET = x

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
13. Output of line 6: line 5 from line 4.		[R/S]*	81INC: x
14. Input line 7: 1981 form 1040, line 34.	line 34	[R/S]	82INC: x
15. Input line 8: 1982 form 1040, line 34.	line 34	[R/S]	TOTAL= x
16. Output of line 10: sum of lines 3, 6, 7, 8 and 9.		[R/S]*	LIN11= x
17. Output of line 10 * 0.3		[R/S]*	83INC: x
18. Input line 12: 1983 form 1040, line 37. If the program was called from the 1040 program, this will be an output display.	line 37	[R/S]	LIN18= x
19. Output of line 16 from line 17.		[R/S]*	LIN19= x
20. If line 18 is less than or equal to 3000, "NG" is displayed rather than line 19. If this is the case, then 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.			
21. Output of line 18 * 0.2		[R/S]*	LIN20= x
22. Output line 20: copy of line 11.		[R/S]*	21,23= x
23. Output of line 19 + line 20.		[R/S]*	24,25= x



INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
24. Output of tax on line 23. Note that there is a slight delay before this value is displayed.		[R/S]*	LIN26= x
25. Output of tax on line 20. Note that there is a slight delay before this value is displayed.		[R/S]*	LIN27= x
26. Output of line 26 from 25.		[R/S]*	LIN28= x
27. Output of line 27 * 4.		[R/S]*	SGTAX= x
28. Output of Line 24 + line 28.		[R/S]*	LOTAX= x
29. 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 120 steps and 326 bytes (46.6 registers) long. It requires two other programs: the miscellaneous routines program at 235 bytes and one of the two tax rate programs at 350 and 374 bytes (50.0 and 53.4 registers). At a minimum, 60 data registers are needed, totalling 190.1 or 193.6 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 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: 1979 form 1040 line 34  
53 = line 2: 1979 exemptions \* 1000  
54 = line 4: 1980 form 1040 line 34  
55 = line 5: 1980 exemptions \* 1000  
56 = line 7: 1981 taxable income, form 1040, line 34  
57 = line 8: 1982 taxable income, form 1040, line 34  
58 = line 10: sum of lines 3, 6, 7, 8 and 9;  
      line 13: line 12 \* 0.3;  
59 = 750; 1000; lines 26, 27; line 34;

\* 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 XEQ "0"
09*LBL 10
10 58
11 "SCHEDUL
E G"
12 XEQ "U"
13 FC? 04
14 XEQ "Z"
15 52
16 STO 00
17 "79"
18 XEQ 00
19 "80"
20 XEQ 00
21 "81INC"
22 XEQ "Y"
23 "82INC"
24 XEQ "Y"
25 "TOTAL"
26 RCL 58
27 XEQ "V"
28 ADV
29 "LIN11"
30 30
31 %
32 RND
33 STO 58
34 XEQ "V"
35 "83INC"
36 21
37 STO 00
38 RCL 21
39 FS? 04
40 XEQ "X"
41 FC? 04
42 XEQ "Z"
43 "LIN18"
44 RCL 58
45 -
46 XEQ "V"
47 ADV
48 "NG"
49 3 E3
50 X<>Y
51 X<=Y?
52 AVIEW
53 X<=Y?
54 GTO 01
55 "LIN19"
56 20
57 %
58 XEQ "V"
59 "LIN20"
60 RCL 58
61 XEQ "V"
62 "21,23"
63 +
64 XEQ "V"
65 XEQ "R"
66 "24,25"
67 RND
68 STO 59
69 XEQ "V"
70 RCL 58
71 XEQ "R"
72 "LIN26"
73 XEQ "V"
74 "LIN27"
75 RCL 59
76 X<>Y
77 -
78 XEQ "V"
79 "LIN28"
80 4
81 *
82 XEQ "V"
83 "SGTAX"
84 ST+ 59
85 RCL 59
86 XEQ "V"
87 FC? 04
88 GTO 01
89 "LOTAX"
90 RCL 59
91 RCL 22
92 X>Y?
93 X<>Y
94 STO 22
95 XEQ "V"
96 GTO 01
97*LBL 00
98 "FINC"
99 XEQ "Z"
100 "EXMP$"
101 XEQ "Z"
102 "NET "
103 RCL 00
```

# PROGRAM LISTING

```
104 2
105 -
106 RCL IND
X
107 X<>Y
108 RDN
109 X<>Y
110 -
111 SF 06
112 XEQ "V"
113 ADV
114 RTN
115♦LBL 01
116 ADV
117 FS?C 04
118 XEQ "O"
119 ADV
120 .END.
```

SCHEDULE G  
INCOME AVERAGING  
PROGRAM REGISTERS NEEDED: 48

ROW 1 (1 : 5)



ROW 2 (5 : 9)



ROW 3 (10 : 11)



ROW 4 (12 : 17)



ROW 5 (17 : 21)



ROW 6 (21 : 24)



ROW 7 (24 : 27)



ROW 8 (28 : 33)



ROW 9 (34 : 38)



ROW 10 (38 : 43)



ROW 11 (43 : 48)



ROW 12 (48 : 55)



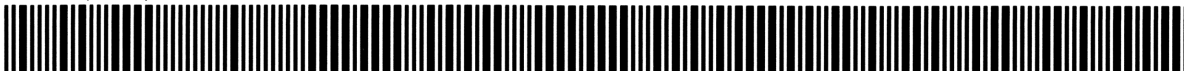
ROW 13 (55 : 59)



ROW 14 (59 : 62)



ROW 15 (63 : 66)



ROW 16 (67 : 72)



ROW 17 (72 : 74)



ROW 18 (75 : 79)



SCHEDULE G  
INCOME AVERAGING

ROW 19 (80 : 84)



ROW 20 (85 : 89)



ROW 21 (89 : 95)



ROW 22 (96 : 100)



ROW 23 (100 : 102)



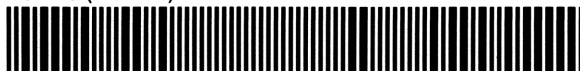
ROW 24 (103 : 112)



ROW 25 (112 : 119)



ROW 26 (120 : 120)



# 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 "TX83 = 4,823.",

"TX83 " is an abbreviation for "1983 tax",  
"= " indicates a program-calculated value, and  
"4,823." 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. 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 dispaays) 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

With a filing status of 2, calculate the tax table tax on \$32,147.00.

The example assumes:

- \* that programs "T3" (1983 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 CLRГ function may be employed to clear data memory (via [XEQ] "CLRГ").
- \* 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
83 TAX RATE STATS: 0.	2	[XEQ] "T3" [R/S]* [R/S]	Identifies the program. Lines 1-5 of form 1040: filing status. If this program was called from another program, this prompt will be skipped.
TXABL: 0.	32147	[R/S]	Line 37 form 1040. If this program was called from another program, this prompt will be skipped.
TX83 = 5,708. 5,708.		[R/S]*	tax superfluous value left in the x-register

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

# USER INSTRUCTIONS

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
=====			
1. At a minimum, load the following programs: "T3" ('83 tax tables) or "T4" ('84 tax tables) "O" (misc. routines).		[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 tax rate program. or		[XEQ] "T3" [XEQ] "T4"	83 TAX RATE 84 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, the 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. or TX84 = x	line 37	[R/S]	TX83 = 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 1983 program is 128 steps and 350 bytes (50.0 registers) long. It requires one other program: the miscellaneous routines program at 235 bytes (33.6 registers). At a minimum, 29 data registers are needed, totalling 112.6 registers.

The tax rate 1984 program is 134 steps and 374 bytes (53.4 registers) long. It requires one other program: the miscellaneous routines program at 235 bytes. At a minimum, 29 data registers are needed, totalling 116.0 registers.

The programs have two entry points, global labels "T3" or "T4" and "R". Labels "T3" and "T4" 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 "T3" or "T4"  
flag 12 : set - print double wide (for the printed program  
                                  identifier)  
          clear - print single wide

The 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

```
01*LBL "T3"  
02 SF 12  
03 "83 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 .2311104  
1  
26 ENTER↑  
27 1.122222  
34  
28 XEQ 11  
29 .2321213  
2  
30 XEQ 12  
31 .5353537  
4  
32 ENTER↑  
33 .44455  
34 XEQ 11  
35 138  
36 XEQ 09  
37 GTO 10  
38*LBL 03  
39 CF 09  
40 2  
41 *  
42*LBL 02  
43*LBL 05  
44 .3421214  
3  
45 ENTER↑  
46 1.122224
```

```
345  
47 XEQ 11  
48 .4142445  
353  
49 XEQ 12  
50 1.06  
51 ENTER↑  
52 .5442  
53 XEQ 11  
54 142  
55 XEQ 09  
56 256  
57 XEQ 09  
58 238  
59 XEQ 09  
60 GTO 10  
61*LBL 11  
62 STO 28  
63 RDN  
64*LBL 12  
65 RDN  
66 X<=0?  
67 RTN  
68 R↑  
69 1 E2  
70 *  
71 FRC  
72 X<>Y  
73 LASTX  
74 INT  
75*LBL 09  
76 -  
77 X>0?  
78 GTO 06  
79 RDN  
80 CLX  
81 RTN  
82*LBL 06  
83 10  
84 ST* 28  
85 CLX  
86 RCL 28  
87 FRC  
88 X<> 28  
89 INT  
90 %  
91 ST+ 27  
92 RDN  
93 X<>Y  
94 X>0?  
95 GTO 12  
96 X<>Y  
97 RTN  
98*LBL 04  
99 .2321212
```

# PROGRAM LISTING

```
2
100 ENTER↑
101 1.122312
445
102 XEQ 11
103 .3132325
353
104 XEQ 12
105 .53
106 ENTER↑
107 .3742
108 XEQ 11
109 106
110 XEQ 09
111 159
112 XEQ 09
113 212
114 XEQ 09
115*LBL 10
116 RCL 27
117 50
118 FS?C 09
119 ST+ X
120 *
121 "TX83"
122 FS?C 10
123 RTN
124 "F "
125 XEQ "X"
126 ADV
127 ADV
128 .END.
```

1983 AND 1984  
TAX RATE SCHEDULES  
PROGRAM REGISTERS NEEDED: 51

ROW 1 (1 : 3)



ROW 2 (3 : 6)



ROW 3 (7 : 11)



ROW 4 (11 : 16)



ROW 5 (17 : 24)



ROW 6 (25 : 27)



ROW 7 (27 : 29)



ROW 8 (29 : 31)



ROW 9 (31 : 34)



ROW 10 (34 : 39)



ROW 11 (40 : 44)



ROW 12 (45 : 47)



ROW 13 (47 : 48)



ROW 14 (49 : 52)



ROW 15 (53 : 57)



ROW 16 (57 : 62)



ROW 17 (63 : 73)



ROW 18 (74 : 84)



1983 AND 1984  
TAX RATE SCHEDULES

ROW 19 (84 : 93)



ROW 20 (94 : 99)



ROW 21 (99 : 101)



ROW 22 (101 : 103)



ROW 23 (103 : 107)



ROW 24 (107 : 111)



ROW 25 (112 : 117)



ROW 26 (117 : 122)



ROW 27 (123 : 128)



# PROGRAM LISTING

```
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 .2311102  
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  
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  
98 X>0?  
99 GTO 12  
100 X<>Y
```



# PROGRAM LISTING

```
101 RTN
102*LBL 04
103 .2321212
2
104 ENTER↑
105 1.112312
444
106 XEQ 11
107 .3132325
353
108 XEQ 12
109 .53
110 ENTER↑
111 .37332
112 XEQ 11
113 106
114 XEQ 09
115 159
116 XEQ 09
117 212
118 XEQ 09
119 265
120 XEQ 09
121*LBL 10
122 RCL 27
123 50
124 FS?C 09
125 ST+ X
126 *
127 "TX84"
128 FS?C 10
129 RTN
130 "↑ "
131 XEQ "X"
132 ADV
133 ADV
134 .END.
```

1983 AND 1984  
TAX RATE SCHEDULES  
PROGRAM REGISTERS NEEDED: 55

ROW 1 (1 : 3)



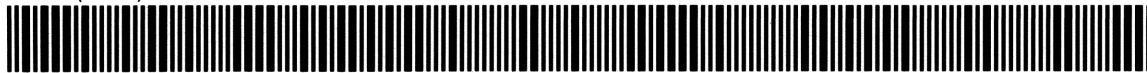
ROW 2 (3 : 6)



ROW 3 (7 : 11)



ROW 4 (11 : 16)



ROW 5 (17 : 24)



ROW 6 (25 : 27)



ROW 7 (27 : 29)



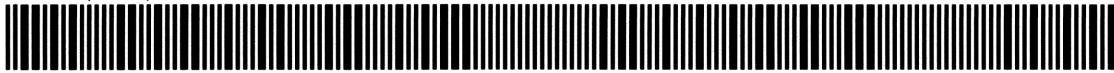
ROW 8 (29 : 31)



ROW 9 (31 : 33)



ROW 10 (33 : 37)



ROW 11 (37 : 44)



ROW 12 (45 : 48)



ROW 13 (48 : 50)



ROW 14 (50 : 51)



ROW 15 (52 : 55)



ROW 16 (55 : 59)



ROW 17 (60 : 64)



ROW 18 (64 : 73)



1983 AND 1984  
TAX RATE SCHEDULES

ROW 19 (74 : 85)



ROW 20 (86 : 94)



ROW 21 (95 : 103)



ROW 22 (103 : 105)



ROW 23 (105 : 107)



ROW 24 (107 : 110)



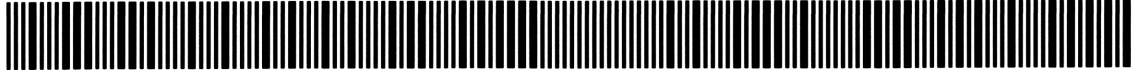
ROW 25 (111 : 114)



ROW 26 (114 : 118)



ROW 27 (118 : 124)



ROW 28 (124 : 130)



ROW 29 (130 : 134)



ROW 30 (134 : 134)



# 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.

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.

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, therefore, have to be adjusted. This is significant only if the amount adjusted were less than \$3,000 (\$1,500; if married and filing separately). See the tax form instructions for more information in this area.

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

Fill out the form on pages 64 and 65.

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.



**SCHEDULE D  
(FORM 1040)**

**Capital Gains and Losses** (Examples of property to be reported on this Schedule are gains and losses on stocks, bonds, and similar investments, and gains (but not losses) on personal assets such as a home or jewelry.)

OMB No. 1545-0074

**1983**  
11

Department of the Treasury  
Internal Revenue Service (0)

▶ Attach to Form 1040. ▶ See Instructions for Schedule D (Form 1040).

Name(s) as shown on Form 1040

Your social security number

**PART I.—Short-term Capital Gains and Losses—Assets Held One Year or Less**

a. Description of property (Example, 100 shares 7% preferred of "Z" Co.)	b. Date acquired (Mo., day, yr.)	c. Date sold (Mo., day, yr.)	d. Gross sales price	e. Cost or other basis, plus expense of sale	f. LOSS If column (e) is more than (d) subtract (d) from (e)	g. GAIN If column (d) is more than (e) subtract (e) from (d)
1					5,000	6,000
2	Short-term gain from sale or exchange of a principal residence from Form 2119, lines 7 or 11				2	85
3	Short-term capital gain from installment sales from Form 6252, line 21 or 29				3	2,400
4	Net short-term gain or (loss) from partnerships, S corporations, and fiduciaries				4	0
5	Add lines 1 through 4 in column f and column g.				5	8,485
6	Combine columns f and g of line 5 and enter the net gain or (loss).				6	485
7	Short-term capital loss carryover from years beginning after 1969.				7	0
8	Net short-term gain or (loss), combine lines 6 and 7				8	485

**PART II.— Long-term Capital Gains and Losses—Assets Held More Than One Year**

9					8,000	9,500
10	Long-term gain from sale or exchange of a principal residence from Form 2119, lines 7, 11, 16 or 18				10	450
11	Long-term capital gain from installment sales from Form 6252, line 21 or 29				11	630
12	Net long-term gain or (loss) from partnerships, S corporations, and fiduciaries				12	0
13	Add lines 9 through 12 in column f and column g.				13	11,330
14	Combine columns f and g of line 13 and enter the net gain or (loss)				14	3,330
15	Capital gain distributions				15	543
16	Enter gain from Form 4797, line 6(a)(1)				16	2,623
17	Combine lines 14 through 16				17	6,496
18	Long-term capital loss carryover from years beginning after 1969				18	0
19	Net long-term gain or (loss), combine lines 17 and 18				19	1,504

**Note:** Complete the back of this form. However, if you have capital loss carryovers from years beginning before 1970, do not complete Parts III or V. See Form 4798 instead.

**PART III.—Summary of Parts I and II**

20	Combine lines 8 and 19, and enter the net gain or (loss) here . . . . . <i>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.</i>	20	1,019
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 . . . . . <i>If line 22 is more than zero, you may be liable for the alternative minimum tax. See Form 6251.</i>	22	
23	Subtract line 22 from line 20. Enter here and on Form 1040, line 13 . . . . .	23	
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	-510
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.—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 V.—Computation of Post-1969 Capital Loss Carryovers from 1983 to 1984**

(Complete this part if the loss on line 24 is more than the loss on line 25)  
**Note: You do not have to complete Part V on the copy you file with IRS.**

**Section A.—Short-term Capital Loss Carryover**

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 1983 to 1984 . . . . .	30	

**Section B.—Long-term Capital Loss Carryover**

31	Subtract line 29 from line 25 ( <b>Note: If you skipped lines 27 through 30, enter amount from line 25</b> ) . . . . .	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 1983 to 1984 . . . . .	36	

# USER INSTRUCTIONS

INSTRUCTIONS	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 from form 1040: 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. x	total	[R/S]	TOT1G:
10. Enter the total of column 1g.	total	[R/S]	LINE2: x
11. Enter line 2: gain from sale of principal residence. LINE3: x	gain	[R/S]	
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 fiduciaries. 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 partnersips 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 partnersips 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 - 235 bytes (33.6 registers). At a minimum, 48 data registers are needed, totalling 174.6 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 inable the accumulate feature of routine "X"
- flag 12 : set - print double wide (for the printed program identifier)
- clear - print single wide

The 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. NEWPAGE
- 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"
02*LBL 00
03 SF 12
04 "SCHEDUL
E D"
05 28
06 XEQ "U"
07 XEQ "Z"
08 "TXABL"
09 21
10 STO 00
11 XEQ "Z"
12 ADV
13 30
14 STO 00
15 "TOT1F"
16 XEQ "Z"
17 "TOT1G"
18 XEQ "Y"
19 "LINE2"
20 XEQ "Y"
21 "LINE3"
22 XEQ "Y"
23 "LIN4F"
24 XEQ "Z"
25 "LIN4G"
26 XEQ 01
27 "LIN5F"
28 RCL 30
29 RND
30 ABS
31 RCL 34
32 RND
33 ABS
34 +
35 CHS
36 XEQ "V"
37 "LIN5G"
38 RCL 28
39 XEQ "V"
40 "LINE6"
41 +
42 STO 28
43 XEQ "V"
44 "LINE7"
45 XEQ "Z"
46 "LINE8"
47 RCL 28
48 RND
49 +
50 STO 37
51 XEQ "X"
52 ADV
53 CLX
54 STO 28
55 "TOT9F"
56 XEQ "Z"
57 "TOT9G"
58 XEQ "Y"
59 "LIN10"
60 XEQ "Y"
61 "LIN11"
62 XEQ "Y"
63 "LN12F"
64 XEQ "Z"
65 "LN12G"
66 XEQ 01
67 "LN13F"
68 RCL 38
69 RND
70 ABS
71 RCL 42
72 RND
73 ABS
74 +
75 CHS
76 XEQ "V"
77 "LN13G"
78 RCL 28
79 XEQ "V"
80 "LIN14"
81 +
82 STO 28
83 XEQ "V"
84 ADV
85 "LIN15"
86 XEQ "Y"
87 "LIN16"
88 XEQ "Y"
89 "LIN17"
90 RCL 28
91 XEQ "V"
92 "LIN18"
93 XEQ "Z"
94 "LIN19"
95 RCL 28
96 RND
97 +
98 STO 47
99 XEQ "X"
100 ADV
101 "LIN20"
102 RCL 37
103 +
104 XEQ "V"
105 ENTER↑
```

# PROGRAM LISTING

```
106 X<0?
107 GTO 04
108 "LIN21"
109 RCL 47
110 X>Y?
111 X<>Y
112 X<0?
113 CLX
114 XEQ "V"
115 "LIN22"
116 .6
117 *
118 RND
119 STO 29
120 XEQ "X"
121 "23 GN"
122 X<>Y
123 RDN
124 -
125 STO 09
126 XEQ "V"
127 GTO 05
128♦LBL 04
129 0
130 STO 29
131 RDN
132 "LIN24"
133 RCL 37
134 SIGN
135 X>0?
136 GTO 08
137 RCL 47
138 SIGN
139 X>0?
140 GTO 06
141 RCL 37
142 RND
143 RCL 47
144 RND
145 2
146 /
147 +
148 GTO 07
149♦LBL 08
150 CLX
151 50
152 %
153 GTO 07
154♦LBL 06
155 RDN
156 RDN
157♦LBL 07
158 RND
159 STO 28
160 XEQ "X"
161 "25 LS"
162 ABS
163 1
164 SIGN
165 RDN
166 RCL 01
167 3
168 X=Y?
169 ISG L
170 CLD
171 RDN
172 RDN
173 3 E3
174 LASTX
175 /
176 X<Y?
177 X<>Y
178 RDN
179 RCL 21
180 RND
181 X<Y?
182 X<>Y
183 RDN
184 CHS
185 RND
186 STO 09
187 XEQ "V"
188 RCL 28
189 X<>Y
190 X<=Y?
191 GTO 05
192 ADV
193 "LIN26"
194 RCL 37
195 X>0?
196 CLX
197 XEQ "V"
198 X=0?
199 GTO 09
200 "LIN27"
201 RCL 47
202 X<0?
203 CLX
204 XEQ "V"
205 "LIN28"
206 +
207 X>0?
208 CLX
209 ENTER↑
210 XEQ "V"
211 "LIN29"
```

# PROGRAM LISTING

```
212 RCL 09
213 X<Y?
214 X<>Y
215 STO T
216 XEQ "V"
217 "LIN30"
218 X<>Y
219 RDN
220 -
221 X>0?
222 CLX
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
261 ADV
262 ADV
263 RTN
264 GTO 00
265*LBL 01
266 X=0?
267 GTO 02
268 CLX
269 STO IND
00
270 XEQ "X"
271 RTN
272*LBL 02
273 XEQ "Y"
274 .END.
```

SCHEDULE D  
CAPITAL GAINS & LOSSES  
PROGRAM REGISTERS NEEDED: 94

ROW 1 (1 : 4)



ROW 2 (4 : 7)



ROW 3 (7 : 11)



ROW 4 (11 : 16)



ROW 5 (16 : 19)



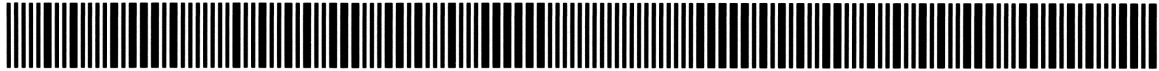
ROW 6 (19 : 22)



ROW 7 (22 : 25)



ROW 8 (25 : 27)



ROW 9 (28 : 36)



ROW 10 (37 : 40)



ROW 11 (40 : 44)



ROW 12 (44 : 47)



ROW 13 (47 : 55)



ROW 14 (55 : 57)



ROW 15 (57 : 60)



ROW 16 (61 : 63)



ROW 17 (63 : 66)



ROW 18 (66 : 71)



SCHEDULE D  
CAPITAL GAINS & LOSSES

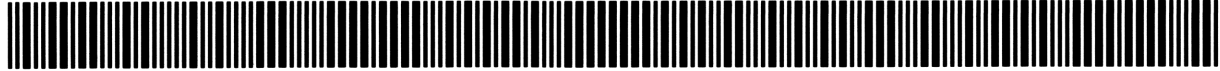
ROW 19 (72 : 77)



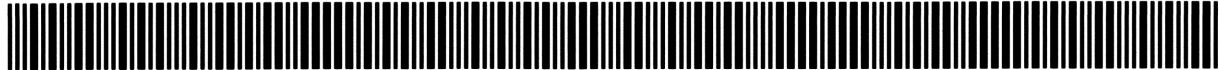
ROW 20 (78 : 82)



ROW 21 (82 : 86)



ROW 22 (86 : 89)



ROW 23 (89 : 92)



ROW 24 (92 : 96)



ROW 25 (97 : 101)



ROW 26 (102 : 108)



ROW 27 (108 : 115)



ROW 28 (115 : 120)



ROW 29 (120 : 126)



ROW 30 (126 : 132)



ROW 31 (132 : 140)



ROW 32 (141 : 150)



ROW 33 (151 : 160)



ROW 34 (160 : 166)



ROW 35 (167 : 176)



ROW 36 (177 : 187)



SCHEDULE D  
CAPITAL GAINS & LOSSES

ROW 37 (187 : 193)



ROW 38 (193 : 200)



ROW 39 (200 : 205)



ROW 40 (205 : 211)



ROW 41 (211 : 217)



ROW 42 (217 : 223)



ROW 43 (224 : 231)



ROW 44 (232 : 236)



ROW 45 (237 : 241)



ROW 46 (241 : 246)



ROW 47 (247 : 252)



ROW 48 (253 : 258)



ROW 49 (259 : 267)



ROW 50 (268 : 274)



ROW 51 (274 : 274)



# PROGRAM DESCRIPTION

## FORM 6251 ALTERNATIVE MINIMUM TAX

### PURPOSE -

The purpose of this program is to aid the user in calculating alternative minimum tax using Form 6251.

### 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 that 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 "LN2e3= 62.":

"LN2e3" is an abbreviation for "Line 2e(3)",  
"= " indicates a program-calculated (output) 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.

The Schedule A, Schedule D, and alternative minimum tax programs all use many of the same data registers for different purposes. To minimize re-entry of altered information, when using more than one of these programs, the programs should be executed in the following order: 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 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

Fill out the form on page 83.

The example assumes:

- \* that programs "AM" (Alternate Minimum Tax) and "O" (common subroutines) have been loaded into memory.
- \* there are 52 available data registers (i.e., SIZE has been set to a number greater than 051).
- \* 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 point and digit grouping flags).

# SOLUTION

DISPLAY	INPUT	KEYSTROKES	COMMENTS
=====			
ALT MIN TAX		[XEQ] "AM"	
STATS: 0.	2	[R/S]*	Identifies the program.
		[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.

DISPLAY	INPUT	KEYSTROKES	COMMENTS
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.
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 Schedule A.
LIN2G: 0.		[R/S]	Estate tax included in line 24 of Sched. A.
LIN2H= 2,999.		[R/S]*	Total of lines 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 amortization
LIN4F: 0.		[R/S]	Mining exploration and development
LIN4G: 0.		[R/S]	Circulation and research and experimental expenditures
LIN4H: 0.		[R/S]	Reserves for losses on bad debts of financial institutions
LIN4I: 0.		[R/S]	Depletion
LIN4J: 0.		[R/S]	Incentive stock options
LIN4K: 0.		[R/S]	Intangible drilling costs
LIN4L= 3,811.		[R/S]*	Total of lines 4a through 4k
LINE5= 48,457.		[R/S]*	Alternative minimum taxable income: sum of lines 3 and 4l
LINE6= 40,000		[R/S]*	Exemption: \$40,000 for filing status 2 or 5; \$30,000 for status 1 or 4; \$20,000 for status 3
LINE7= 8,457.		[R/S]*	Line 6 from Line 5. If zero or less, the rest of the form is not completed; the program proceeds to the final display ("AMTAX").
LINE8= 1,691.		[R/S]*	20% of Line 7

LINE9: 0.	7778	[R/S]	Amount from Form 1040, line 49; net tax after credits
LIN10= 0.		[R/S]*	Line 9 from Line 8
LIN11: 0.		[R/S]	Foreign tax credit
LIN12= 0.		[R/S]*	Alternative minimum tax
AMTAX= 0.		[R/S]*	Alternative minimum tax
0.			The last output is left in the X-register.

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

# Alternative Minimum Tax Computation

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

Name(s) as shown on tax return		Identifying number	
<b>1</b>	Adjusted gross income from Form 1040, or Form 1040NR, line 33 (estates and trusts, see instructions)	<b>1</b>	
<b>2</b>	Deductions (estates and trusts, see instructions):		
<b>a</b>	(1) Medical and dental expense from Schedule A, line 7	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 less than zero, enter zero)	2a(3)	0
<b>b</b>	Contributions from Schedule A, line 20	2b	560
<b>c</b>	Casualty and theft losses from Schedule A, line 21	2c	0
<b>d</b>	Interest expense on property used as a residence from Schedule A, line 13	2d	2,377
<b>e</b>	(1) Interest, other than line 2d above, from Schedule A, line 16	2e(1)	62
	(2) Net investment income	2e(2)	2,340
	(3) Enter the smaller of line 2e(1) or line 2e(2)	2e(3)	62
<b>f</b>	Gambling losses to the extent of gambling winnings from Schedule A, line 24	2f	0
<b>g</b>	Estate tax allowable under section 691(c) from Schedule A	2g	0
	<b>h</b> Add lines 2a(3), b, c, d, e(3), f, and g	2h	2,999
<b>3</b>	Subtract line 2h from line 1	<b>3</b>	44,646
<b>4</b>	Tax preference items:		
<b>a</b>	All-savers interest exclusion, and dividend exclusion	4a	200
<b>b</b>	60% capital gain deduction	4b	1361
<b>c</b>	Accelerated depreciation on nonrecovery real property or 15-year real property	4c	960
<b>d</b>	Accelerated depreciation on leased personal property or leased recovery property other than 15-year real property	4d	0
<b>e</b>	Amortization of certified pollution control facilities	4e	1200
<b>f</b>	Mining exploration and development costs	4f	
<b>g</b>	Circulation and research and experimental expenditures	4g	
<b>h</b>	Reserves for losses on bad debts of financial institutions	4h	
<b>i</b>	Depletion	4i	150
<b>j</b>	Incentive stock options	4j	
<b>k</b>	Intangible drilling costs	4k	
	<b>l</b> Add lines 4a through 4k	4l	3,811
<b>5</b>	Alternative minimum taxable income (add lines 3 and 4(l)) (short period returns, see instructions)	<b>5</b>	48,457
<b>6</b>	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	<b>6</b>	40,000
<b>7</b>	Subtract line 6 from line 5. If zero or less, do not complete the rest of this form	<b>7</b>	8,457
<b>8</b>	Enter 20% of line 7	<b>8</b>	1,691
<b>9</b>	Amount from Form 1040, line 49 or Form 1040NR, line 51 (Do not include Form 1040, line 39 or 1040NR, line 42.) (estates and trusts, see instructions)	<b>9</b>	7,778
<b>10</b>	Subtract line 9 from line 8. If zero or less, enter zero	<b>10</b>	0
<b>11</b>	Foreign tax credit	<b>11</b>	0
<b>12</b>	Alternative minimum tax (subtract line 11 from line 10). Enter on Form 1040, line 51, Form 1040NR, line 52, Form 1041, line 32, or Form 990-T, page 1, line 14	<b>12</b>	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.

**Purpose of Form.**— Use this form to figure your alternative minimum tax, but file it only if you are liable. Individuals, estates or trusts may be liable if they have any tax preference items listed on line 4 or adjusted gross income of more than line 6.

If you made an election under section 58(i), enter zero on lines 4f, 4g, and 4k.

### Minimum Tax Deferred From Earlier Year(s).

— If a net operating loss carryover from an earlier year(s) reduces taxable income for 1983, 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 includable as tax liability for 1983. 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 51, 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 unused credits. See section 55(c)(3).

(Continued on back)

# USER INSTRUCTIONS

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
=====			
1. At a minimum, load the following programs: "AM" (Alt. Min. tax) "O" (misc. routines).		[shift] [GTO] .. [shift] [GTO] ..	
2. Allocate data registers (minimum SIZE 052).		[XEQ] "SIZE" 052	
3. Select an appropriate display format.		[shift] [FIX] n	
4. Select either "prompting" (flag set) or "non-prompting" (flag clear) mode. Pressing [XEQ] "P" toggles between these modes.		[XEQ] "P"	
5. Run the altern. min, tax prgm		[XEQ] "AM"	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]	AGI : x
8. Enter line 32 from Form 1040: adjusted gross income	AGI	[R/S]	LN2a1: x
9. Enter line 7 from Sched. A: net medical expense	net med exp	[R/S]	LN2a3= 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 20 from Sched. A total contributions	contributions	[R/S]	LIN2c: x
13. Enter line 21 from Sched. A total casualty and theft loss	casualty	[R/S]	LIN2d: x

INSTRUCTIONS	INPUT	KEYSTROKES	DISPLAY
14. Enter line 13 from Sched. A interest expense on residence	mortgage	[R/S]	LN2e1: x
15. Enter difference of Lines 16 and 13, 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 24 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; if less than 0, output 0		[R/S]*	LIN4a: x
22. Enter line 4a: total of all-savers interest exclusion and dividend exclusion.	int & div exclusion	[R/S]	LIN4b: x
23. Enter line 4b: 60% 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 explo- ration and development costs	mining	[R/S]	LIN4G: x
28. Enter line 4g: circulation and research and experi- mental 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 go to instructin 42		[R/S]*	LINE8= x
37. Output of line 8: 20% of line 7		[R/S]*	LINE9: x
38. Enter line 9: Line 49 from Form 1040	Line 49	[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 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 output is left in the X-register			

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

#### PROGRAM DETAIL -

The form 6251 program is 179 steps and 452 bytes (64.6 registers) long. It requires one other program: the miscellaneous routines program (235 bytes and 33.6 registers). At a minimum, 52 data registers are needed, for a total of 150.1 registers.

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

Aside from the flags manipulated by the subroutine 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 registers 1, 9, and 21. The following data registers are used:

- 00 = register index for data manipulation
- \*01 = filing status: Lines 1 through 5 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 2b 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)
- 35 = Line 4a: all-saver interest exclusion and dividend exclusion
- 36 = Line 4c: accelerated depreciation on non-recovery or 15-yr real prop
- 37 = Line 4d: accelerated depreciation on other property
- 38 = Line 4e: amortization of certified pollution control 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 institutions
- \*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 some 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 XEQ 10
78 "b"
79 29
80 STO 00
81 XEQ 10
82 "c"
83 36
84 STO 00
85 XEQ 10
86 "d"
87 XEQ 10
88 "e"
89 XEQ 10
90 "F"
91 XEQ 10
92 "G"
93 1
94 ST+ 00
95 XEQ 10
96 ADV
97 "H"
98 XEQ 10
99 "I"
100 3
101 ST+ 00
102 XEQ 10
103 "J"
104 XEQ 10
105 "K"
```

# PROGRAM LISTING

```
106 XEQ 10
107 "LIN4L"
108 RCL 49
109 XEQ "X"
110 ADV
111 "LINE5"
112 RCL 28
113 RND
114 +
115 XEQ "V"
116 "LINE6"
117 4
118 GTO IND
01
119*LBL 03
120 1
121 -
122*LBL 04
123*LBL 01
124 1
125 -
126*LBL 05
127*LBL 02
128 1 E4
129 *
130 XEQ "V"
131 "LINE7"
132 XEQ 13
133 X=0?
134 GTO 09
135 "LINE8"
136 20
137 %
138 XEQ "V"
139 STO 28
140 "LINE9"
141 22
142 STO 00
143 XEQ "Z"
144 "LIN10"
145 XEQ 11
146 STO 28
147 "LIN11"
148 50
149 STO 00
150 XEQ "Z"
151 "LIN12"
152 XEQ 11
153*LBL 09
154 "AMTAX"
155 RND
156 STO 51
157 XEQ "V"
158 ADV
159 ADV
160 RTN
161 GTO 00
162*LBL 10
163 ASTO L
164 "LIN4"
165 ARCL L
166 XEQ "Y"
167 RTN
168*LBL 11
169 RCL 28
170*LBL 12
171 RND
172 X<>Y
173*LBL 13
174 RND
175 -
176 X<0?
177 CLX
178 XEQ "V"
179 .END.
```

FORM 6251  
ALTERNATE MINIMUM TAX  
PROGRAM REGISTERS NEEDED: 66

ROW 1 (1 : 4)



ROW 2 (4 : 6)



ROW 3 (6 : 10)



ROW 4 (10 : 15)



ROW 5 (15 : 20)



ROW 6 (20 : 23)



ROW 7 (24 : 28)



ROW 8 (28 : 30)



ROW 9 (30 : 35)



ROW 10 (35 : 44)



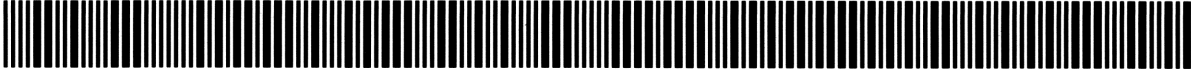
ROW 11 (45 : 50)



ROW 12 (50 : 53)



ROW 13 (54 : 59)



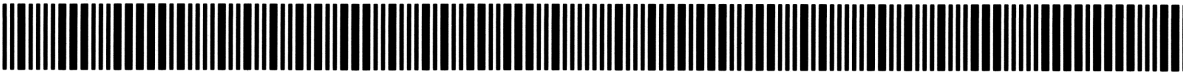
ROW 14 (59 : 62)



ROW 15 (63 : 66)



ROW 16 (66 : 72)



ROW 17 (72 : 78)



ROW 18 (78 : 85)



FORM 6251  
ALTERNATE MINIMUM TAX

ROW 19 (85 : 90)



ROW 20 (90 : 96)



ROW 21 (97 : 102)



ROW 22 (103 : 107)



ROW 23 (107 : 111)



ROW 24 (111 : 116)



ROW 25 (116 : 126)



ROW 26 (127 : 131)



ROW 27 (131 : 135)



ROW 28 (136 : 140)



ROW 29 (140 : 144)



ROW 30 (145 : 148)



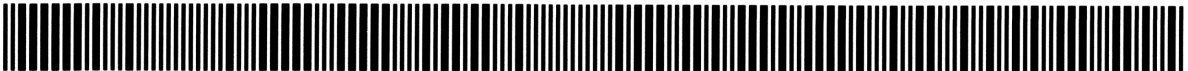
ROW 31 (149 : 152)



ROW 32 (153 : 157)



ROW 33 (158 : 164)



ROW 34 (165 : 173)



ROW 35 (174 : 179)



ROW 36 (179 : 179)



# 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" - 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 "0"
02 "====="
03 ASTO T
04 ARCL T
05 FS? 55
06 AVIEW
07 RTN
08*LBL "P"
09 FC?C 00
10 SF 00
11 RTN
12*LBL "Q"
13 ASTO T
14 "FS"
15 ASTO Z
16 "SCHED "
17 ARCL T
18 "F ?"
19 ADN
20 STOP
21 ADFF
22 ASTO X
23 "Y"
24 ASTO Y
25 X=Y?
26 GTO IND
Z
27 RTN
28*LBL "U"
29 CF 05
30 CF 06
31 CF 08
32 CF 09
33 SF 21
34 ADV
35 AVIEW
36 ADV
37 CF 12
38 1
39 STO 00
40 RDN
41 "STATS"
42 X=0?
43 RTN
44*LBL "T"
45 STO 27
46 CLX
47 STO IND
27
48 RTN
49*LBL "W"
50 17

51 GTO IND
01
52*LBL 05
53*LBL 02
54 11
55 +
56*LBL 04
57*LBL 01
58 6
59 +
60*LBL 03
61 1 E2
62 *
63 RTN
64*LBL "S"
65 RCL 00
66 2
67 -
68 RCL IND
X
69 X<>Y
70 RDN
71 X<>Y
72 -
73 X<0?
74 CLX
75 FC? 06
76 STO IND
00
77 GTO 06
78*LBL "V"
79 SF 08
80*LBL "X"
81*LBL 06
82 SF 05
83 "F= "
84 GTO 00
85*LBL "Y"
86 SF 06
87*LBL "Z"
88 CF 05
89 CF 08
90 "F: "
91 RCL IND
00
92 ARCL X
93 FC? 00
94 PROMPT
95 STO IND
00
96 ASTO T
97 CLA

98 ARCL T
99 "F "
100*LBL 00
101 ARCL X
102 FC? 55
103 FS?C 05
104 AVIEW
105 CLD
106 RND
107 FS?C 06
108 ST+ IND
27
109 FC?C 08
110 ISG 00
111 .END.

```

COMMON ROUTINES

PROGRAM REGISTERS NEEDED: 35

ROW 1 (1 : 3)



ROW 2 (3 : 9)



ROW 3 (9 : 14)



ROW 4 (14 : 18)



ROW 5 (18 : 25)



ROW 6 (26 : 31)



ROW 7 (31 : 40)



ROW 8 (41 : 44)



ROW 9 (45 : 50)



ROW 10 (51 : 61)



ROW 11 (61 : 68)



ROW 12 (68 : 77)



ROW 13 (78 : 81)



ROW 14 (82 : 85)



ROW 15 (86 : 90)



ROW 16 (90 : 96)



ROW 17 (97 : 103)

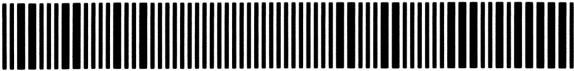


ROW 18 (104 : 110)



COMMON ROUTINES

ROW 19 (111 : 111)







## **Hewlett-Packard Software**

In terms of power and flexibility, the problem-solving potential of the HP-41 programmable calculator is nearly limitless. And in order to see the practical side of this potential, HP has different types of software to help save you time and programming effort. Every one of our software solutions has been carefully selected to effectively increase your problem-solving potential. Chances are, we already have the solutions you're looking for.

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**Clinical Lab 00041-15024**  
**Circuit Analysis 00041-15024**  
**Financial Decisions 00041-15004**  
**Mathematics 00041-15003**  
**Structural Analysis 00041-15021**  
**Surveying 00041-15005**  
**Securities 00041-15026**

**Statistics 00041-15002**  
**Stress Analysis 00041-15027**  
**Games 00041-15022**  
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**Real Estate 00041-15016**  
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**Geometry 00041-90084**  
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**Test Statistics 00041-90082**  
**Antennas 00041-90093**  
**Chemical Engineering 00041-90100**  
**Control Systems 00041-90092**  
**Electrical Engineering 00041-90088**  
**Fluid Dynamics and Hydraulics 00041-90139**  
**Games II 00041-90443**

**Civil Engineering 00041-90089**  
**Heating, Ventilating & Air Conditioning 00041-90140**  
**Mechanical Engineering 00041-90090**  
**Solar Engineering 00041-90138**  
**Calendars 00041-90145**  
**Cardiac/Pulmonary 00041-90097**  
**Chemistry 00041-90102**  
**Games 00041-90099**  
**Optometry I (General) 00041-90143**  
**Optometry II (Contact Lens) 00041-90144**  
**Physics 00041-90142**  
**Surveying 00041-90141**  
**Time Module Solutions 00041-90395**

\*Some books require additional memory modules to accommodate all programs.

## 1983 TAXES

FORM 1040  
SCHEDULE A, ITEMIZED DEDUCTIONS  
SCHEDULE G, INCOME AVERAGING  
1983 AND 1984 TAX RATE SCHEDULES  
SCHEDULE D, CAPITAL GAINS AND LOSSES  
FORM 6251, ALTERNATIVE MINIMUM TAX  
COMMON ROUTINES

