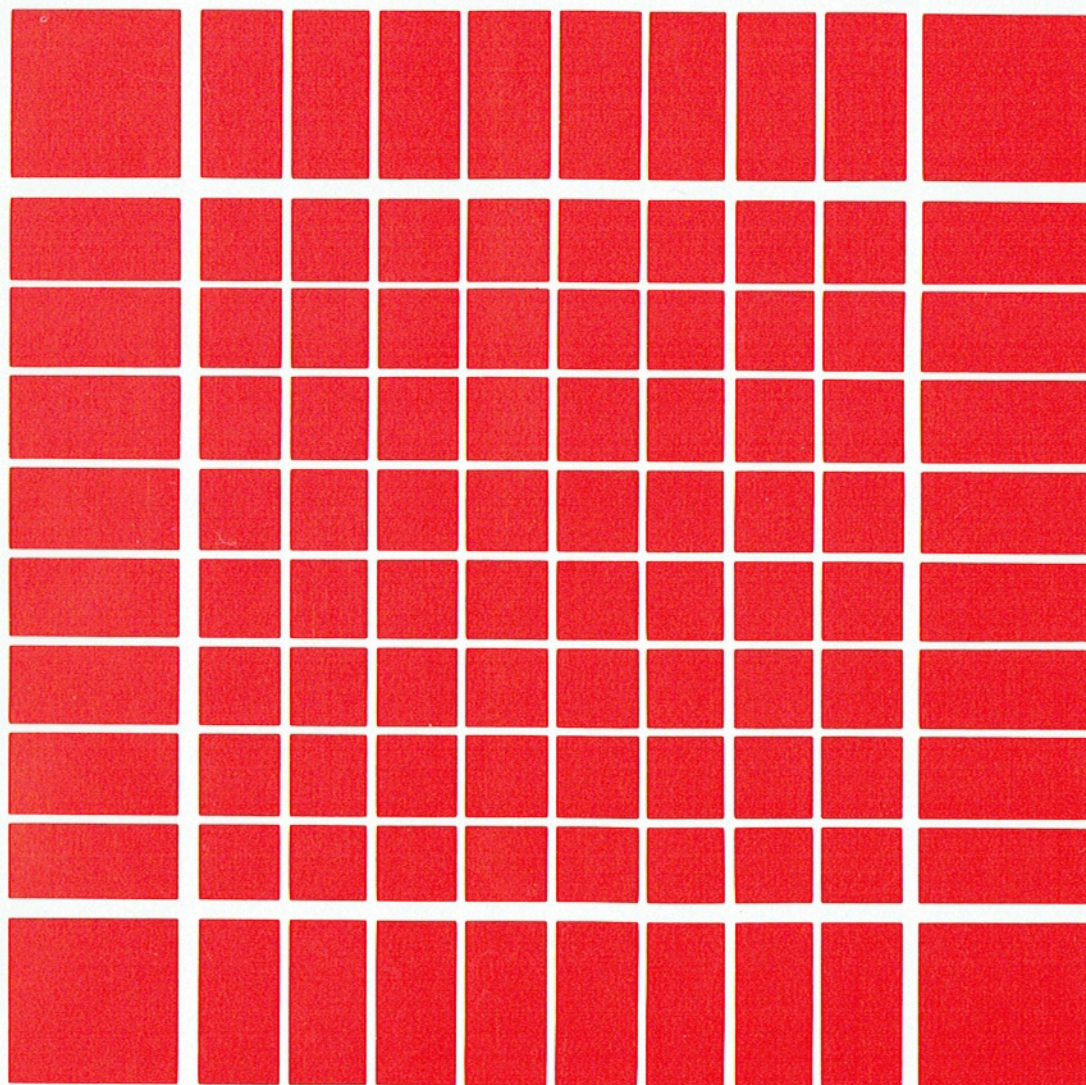


Users' Library



# Contributor's Guide

for the HP.41C  
HP.67 and HP.97







# CONTRIBUTOR'S GUIDE

## INTRODUCTION

The purpose of the Users' Library is to provide a means by which HP calculator users can obtain application programs meeting common needs. Through the Library, these programs are made available to all HP calculator users for a nominal handling charge. Active participation on your part, as a contributor, is the key to providing needed and useful programs. We urge you to document and submit those programs you feel might be of value to others.

In appreciation for any accepted program, you may select four free programs of your choice, compliments of the Library. If you elect to receive no programs at the time of submission, you will be issued a coupon for the 4 programs. All four programs must be selected at the same time. In addition, you will receive full author credit in the "Catalog of Contributed Programs", a periodic publication containing abstracts of Library programs. And the Library will reimburse blank cards equivalent to the number of program/data cards submitted with your program.

### Documenting a Program

This section explains the proper documentation procedures. Two sets of standard documentation forms are included in this package. The complete program submittal package consists of:

1. Program Submittal
2. Program Description I
3. Program Description II
4. User Instructions
5. Program Listing(s)
6. Registers, Status, Flags, Assignments
7. Keyboard/Card Labeling (optional)
8. Recorded Magnetic Card(s)

When submitted, the above documentation package becomes the property of the Library and is retained by HP for testing and review purposes. The Library encourages the submission of program and data cards only. Status information should be included programmatically, whenever possible.

In order to make the Library's services available to users at the lowest possible cost, program orders are filled by photocopying forms 2 through 7 above. For this reason, it is important that:

1. All documentation be typed or legibly printed (not handwritten) in black or blue-black ink. (See instructions on the Program Listing Form on using the paper tape print-out from the HP-97 or HP-82143A.) The Library retains the right to determine what is legible and what is not. The Library will reject a program if in our opinion it is not readable or not reproducible.
2. You submit your programs on original forms. Documentation on photocopies of the forms or on other forms is not acceptable and will be rejected. (Extra copies of forms are available upon request from the Library.)

Please read carefully through the completed sample forms shown in this section for further detailed instructions on documenting your program.

### Program Acceptance

The Library's Staff reviews all submittals, checking for duplication of existing programs from HP Application Pacs and other Library programs, clear and complete documentation in English, legibility, and ability to perform sample problem(s). Inasmuch as your fellow calculator owners expect a significant program for their money, the management of the Library reserves the right to reject programs which, in its opinion, do not represent a significant addition or are not otherwise appropriate to the Library. If a program is not accepted into the Library, the complete submittal package is returned with a letter of explanation. If accepted, we notify you by letter and give you the assigned Library number for your program. At this time, you will also receive the bonus you have selected and your magnetic cards.

Since the Library may reject a program because it duplicates a program already in the Library, it is important to state in the abstract unique features of your program. A short program may be rejected as insignificant unless it is a useful subroutine. Its usefulness should be stated in the abstract.

## Library Maintenance Policies

The Library contains two types of programs: Hewlett-Packard supported and user contributed. Hewlett-Packard supported programs are officially developed and tested by the Hewlett-Packard Company which assumes responsibility for maintaining them.

User contributed programs are submitted by individual users. The wide range of application areas for which programs may be written and the technical knowledge demanded by them make it impractical for the Library to support these programs. We, therefore, ask each contributor's assistance. We request that each contributor's name and address be filled out on Program Description I to allow direct user-to-contributor contact for answering questions on the program. With every program order, the Library distributes a "Program Comment" form on which users can directly report to the Library any logic or documentation errors, suggest possible program modifications, or otherwise remark on a program's general performance. In the event an error is reported, the program is temporarily placed on "unavailable" status. The Library will then notify the contributor and request his assistance in resolving it. No response to a program error notification may result in the program's removal from the Library. If a user suggests possible changes to a program which might clarify documentation, add more versatility, improve efficiency, or otherwise enhance its ability to perform without altering its intended function, the Library will review and then also forward these suggestions. Suggestions may be made by any user, but the contributor must agree to and submit the official change to the Library. To do so, only those documentation forms and/or magnetic card(s) affected by the revision need be resubmitted along with a new Program Submittal Form.

## Mailing Procedures

The Library can provide a valuable source of inexpensive programs for you as an HP calculator user. Help contribute to its effectiveness by documenting those programs you consider of interest to others and forwarding them to:

HP Users' Library  
HEWLETT-PACKARD  
1000 N.E. Circle Blvd.  
Corvallis, OR 97330





## PROGRAM SUBMITTAL

**Note:** *This page is **not** numbered. This form is retained by the Library and used to input catalog information into a computer. It is not shipped with program orders and is not to be numbered with Program pages. PLEASE TYPE, IF POSSIBLE.*

### 1 New Program

Check this box if submittal is new to the Library.

### 2 Revision to Program Number

Check this box if submittal is a revision to an existing Library program. Write in Library program number being revised (five digits followed by a letter.) Note: Only the original author can revise a program.

### 3 Model Number

Check the box that designates the calculator from which the listing was generated.

### 4 Program Title

Enter program title. Abbreviate where necessary so that title does not exceed the spaces provided.

### 5 Number of Steps/Lines

Enter the total number of program steps for 67/97, or number of lines for 41C used on the Program Listing(s) form.

### 6 Category Number

Consult the Application Category Table in this guide and identify the most appropriate category into which your program fits. Classify as specifically as possible. Write in the respective category number here.

### 7 Category Name

Enter the category name corresponding to the number shown above.

### 8 Abstract

Provide a brief description of your program. Do not exceed the 50-word maximum. If your program is similar to one already in the Library, highlight the unique features of yours without referring directly to the other program.

Since your abstract will be printed by a computer using a standard character set, no lower case letters, subscripts, or superscripts can be used and special characters are limited to those shown below:

# \$ @ \* ( ) + = - / & % < > ! : ; " ' ? . ,

Do not use symbols in your abstract. Use the following examples as guidelines:

| Symbol     | How to Write | Symbol        | How to Write | Symbol | How to Write | Symbol | How to Write |
|------------|--------------|---------------|--------------|--------|--------------|--------|--------------|
| $x^a$      | X**A         | $\sqrt[n]{x}$ | X**1/N       | $x+y$  | X+Y          | $R_2$  | R2           |
| $\sqrt{2}$ | X**½         | $x \cdot y$   | X*Y          | $e^x$  | EXP(X)       | $X_i$  | XI           |

### 9 Necessary Accessories

List any extra hardware or software on a basic machine to run your program. For example, list the necessary accessories for the 41C (number of memory modules, printer, card reader, or Application module) and whether another Library program is required (67, 97, or 41C).

### 10 Contributor's Name and Address

Write in your name, mailing address, and phone number (where you can be reached during the day). Try to be consistent from submittal to submittal or your programs will not be listed together in the Author Index.

### 11 Acceptance Choice

Check the option you wish to receive if your program is accepted. List the Users Library program numbers you wish to receive in the spaces provided. Program numbers are listed in the "Catalog of Contributed Programs" available from the Library for a fee. A single coupon for four programs of your choice will be sent if you make no selection at the time of submittal. All programs must be selected at one time; a contributor is not allowed partial credit.

### 12 Submittal Checklist

Use this checklist to make sure you have completed each of the necessary items for program submittal. Mark the box to the left of each listed item before mailing. Recorded magnetic card(s) must be included for your program to be reviewed. The Library encourages the submission of program and data cards only. Therefore, where possible, all status information should be included as part of the program.

### 13 Acknowledgement and Agreement

Please read this statement carefully. It must be signed and dated before a program can be considered as a contribution to the Library.

Programs submitted to the Users' Library may be used by HP in Solutions Books and/or as applications programs on the current or future machines.



# PROGRAM SUBMITTAL

|    |  |  |  |  |              |       |  |  |  |
|----|--|--|--|--|--------------|-------|--|--|--|
| 1  | <input checked="" type="checkbox"/> New Program  | 2  | <input type="checkbox"/> Revision to Program           |  |              |       |  |  |  |
| 3  | Model No.  | <input type="checkbox"/> 67  | <input type="checkbox"/> 97                            | <input checked="" type="checkbox"/> 41C                                |              |       |  |  |  |
| 4  | Program Title  | FINANCIAL CALCULATIONS   |  |  |              |       |  |  |  |
| 5  | No. of Steps/Lines   | 201  | 6  | Category No.   | 003          |       |  |  |  |
| 7  | Category Name  | GENERAL INVESTMENT ANALYSIS  |  |  |              |       |  |  |  |
| 8  | Abstract — 50 Word Maximum   | This program solves a variety of problems involving money, time, and interest.<br>Assumes payments are at the end of the compounding period. |  |  |              |       |  |  |  |
| 9  | Necessary Accessories:   | None required.   |  |  |              |       |  |  |  |
| 10 | Name   | John Doe   |  |  |              |       |  |  |  |
|    | Company  | HEWLETT-PACKARD CO.  |  |  |              |       |  |  |  |
|    | Address  | 1000 NE Circle Blvd.   |  |  |              |       |  |  |  |
|    | City   | Corvallis  | State  | OR   | Zip Code     | 97330 |  |  |  |
|    | Phone Number (503)   | 757-2000   |  |  |              |       |  |  |  |
| 11 | If my program is accepted, my bonus choice is:<br><input type="checkbox"/> FOUR PROGRAMS OR <input checked="" type="checkbox"/> CREDIT FOR FOUR PROGRAMS *<br>* No partial credit will be given. Select all four programs at the same time.  |  |  |  |              |       |  |  |  |
| 12 | Submittal Checklist: Please use the checklist below to insure submittal of all proper program documentation.   |  |  |  |              |       |  |  |  |
|    | <input checked="" type="checkbox"/> Program Submittal  | <input checked="" type="checkbox"/> Program Description II   | <input checked="" type="checkbox"/> Program Listing(s) | <input checked="" type="checkbox"/> Registers, Status ...              |              |       |  |  |  |
|    | <input checked="" type="checkbox"/> Program Description I  | <input checked="" type="checkbox"/> User Instruction   | <input checked="" type="checkbox"/> Magnetic Card(s)   | <input checked="" type="checkbox"/> Keyboard, Card Labeling (optional) |              |       |  |  |  |
| 13 | ACKNOWLEDGMENT AND AGREEMENT<br>To the best of my knowledge, I have the right to contribute this program material without breaching any obligation concerning nondisclosure of proprietary or confidential information of other persons or organizations. I am contributing this program material on a nonconfidential nonobligatory basis to Hewlett-Packard Company ("HP") for inclusion in its program library, and I agree that HP may use, duplicate, modify, publish, and sell the program material and authorize others to do so without obligation or liability of any kind. HP may publish my name and address, as the contributor, to facilitate user inquiries pertaining to this program material. |  |  |  |              |       |  |  |  |
|    | Signature: John Doe  |  |  |  | Date: 8-1-79 |       |  |  |  |

## PROGRAM DESCRIPTION I

**Note:** This page will be photocopied and sent as part of the documentation package to purchasers of your program. PLEASE TYPE, IF POSSIBLE.

**1 Page Number**

Beginning with this form, sequentially number the pages of your program documentation package.

**2 Program Title**

Enter program title *exactly* as shown on the Program Submittal form.

**3 Contributor's Name and Address**

Enter your name and mailing address.

**4 Program Description, Equations, Variables**

Provide a detailed description of your program. Since the abstract given on the Program Submittal form is not shipped with program orders, you may wish to duplicate all or part of it here. Make sure you include such information as program application, basic logic used, equations used, and any special considerations which should be pointed out, e.g., is program linked to another program.

**5 Necessary Accessories (41C only)**

List any peripherals (plug-ins) required by your program, e.g., a printer, card reader, memory module or application module.

**6 Operating Limits and Warnings**

Note any limits to your program's operating ability or accuracy. Also, warn users of any problems that may be encountered during program usage.

**7 Reference(s)**

Direct the user to helpful reference material, e.g., texts from which mathematical formulas or algorithms were obtained. List references in bibliographic format, i.e., name of author, title of publication, edition, volume, page, publisher and copyright year.

**Note:** If additional space is needed, use the Program Continuation Form. Contact the Library for these. Or use a plain white piece of bond typing paper with "Program Continuation Form" typed at the top.



# PROGRAM DESCRIPTION I

Page 1 of 8

2 Program Title FINANCIAL CALCULATIONS

3 Contributor's Name John Doe

Address 1000 NE Circle Blvd.

City Corvallis State OR Zip Code 97330

4 Program Description, Equations, Variables This program can be used to solve a variety of problems involving money, time

and interest. The following variables can be inputs or outputs:

PV = present value: the amount loaned, borrowed, invested, etc.

I = periodic interest rate as a percent

N = number of periods

PMT = periodic payment amount: the amount paid on a loan or earned on an investment

FV = future value: the amount remaining, accumulated, saved, etc.

Equation used:

$$0 = PV + \frac{PMT}{i} [1 - (1 + i)^{-N}] + FV (1 + i)^{-N}$$

where  $i = I/100$

5 Necessary Accessories none

6 Operating Limits and Warnings Payments are assumed to occur at the end of the compounding period.

7 Reference(s) Grant, E.L. and Ireson, W.G., Principles of Engineering Economy, Fourth Edition, The Ronald Press Company,  
New York, 1964.

This program has been verified only with respect to the numerical example given in *Program Description II*. User accepts and uses this program material AT HIS OWN RISK, in reliance solely upon his own inspection of the program material and without reliance upon any representation or description concerning the program material.

NEITHER HP NOR THE CONTRIBUTOR MAKES ANY EXPRESS OR IMPLIED WARRANTY OF ANY KIND WITH REGARD TO THIS PROGRAM MATERIAL, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. NEITHER HP NOR THE CONTRIBUTOR SHALL BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH OR ARISING OUT OF THE FURNISHING, USE OR PERFORMANCE OF THIS PROGRAM MATERIAL.

## CONTINUATION PAGE

**Note:** This page will be photocopied and sent as part of the documentation package to purchasers of your program. PLEASE TYPE, IF POSSIBLE.

### 1 Page Number

Continue sequential numbering of program pages.

### 2 Type of Continuation Page

Type or neatly print the *name* of the page you wish to continue. In our example, we have continued the Program Description I page.

### 3 Data

Use the lines in an effective manner for your information. If a plain page would work better for you, use a plain piece of white bond typing paper. Please avoid engineering paper, binder paper or colored paper as these types do not photocopy well.

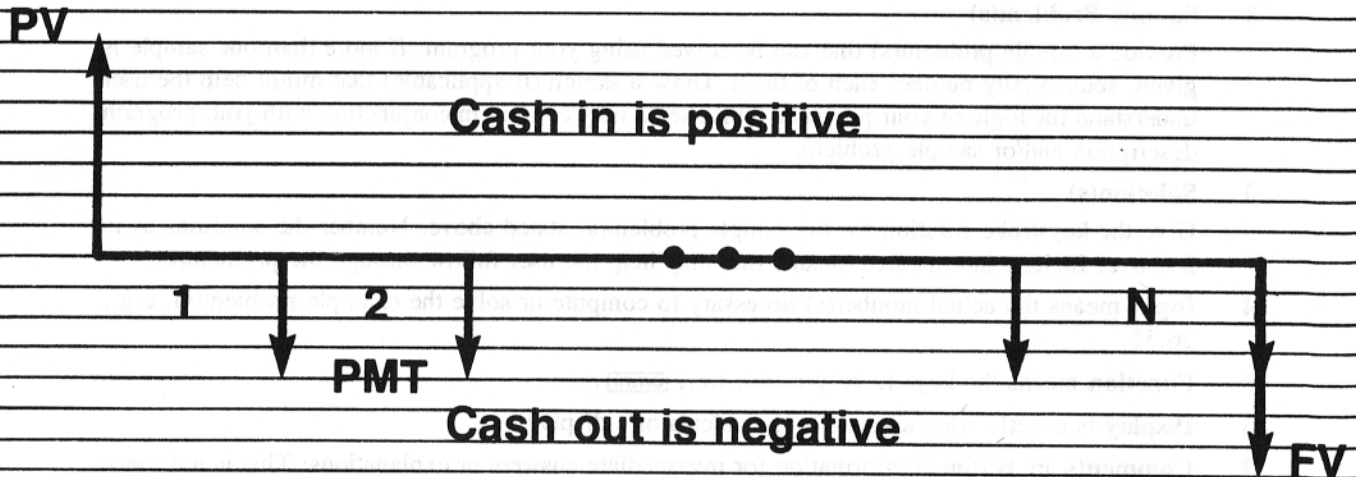


## ② PROGRAM DESCRIPTION I

① Page 2 of 8

(CONTINUATION PAGE)

③ The following diagram may be used to describe a cash flow situation:



Note that cash received is positive and that cash paid out is negative.

## PROGRAM DESCRIPTION II

**Note:** This page will be photocopied and sent as part of the documentation package to purchasers of your program. PLEASE TYPE, IF POSSIBLE.

### 1 Page Number

Continue the sequential numbering of your program documentation.

### 2 Sample Problem(s)

Provide a sample problem(s) that can be solved using your program. If more than one sample is given, sequentially number each of them. Draw a sketch (if applicable) that might help the user understand the logic of your program. This sketch may be used in conjunction with your program description and/or sample problem.

### 3 Solution(s)

Give the keystroke solution for the sample problem(s) stated above. Number the solutions as in 2 above. Include intermediate results that may help the user follow through the problem(s).

### 4 Input means the actual number(s) necessary to compute or solve the example problem(s), e.g., 26.32.

### 5 Function means the keys to be pressed, i.e., **ENTER**.

### 6 Display is exactly what appears in the calculator's display.

### 7 Comments are pertinent information for intermediate answers or explanations. This is not space for description of how the program works. You may leave this area blank if no explanation is necessary.

①

1. A couple purchases a \$50,000 house, borrowing \$40,000 at 8.5% for 30 years less one month. What is their monthly payment?
2. The couple in Example 1 sold their house 18 months later, netting \$25,000. At what interest rate would they have had to invest their original \$10,000 and \$207.75 monthly payments to obtain \$25,000?

③

[illegible]



## USER INSTRUCTIONS

**Note:** This page will be photocopied and sent as part of the documentation package to purchasers of your program. PLEASE TYPE, IF POSSIBLE.

This form is the only part of your program documentation the user will continually refer to when running your program. For this reason, be sure that all information given on this form is complete and concise.

### 1 Page Number

Continue the sequential numbering of your program documentation.

### 2 Size (41C only)

Indicate the number of data registers required by your program.

### 3 Step

Use the following rules-of-thumb for numbering the operational steps:

- A. Number and list each step in order of execution.
- B. If the user has a choice in what he does, number these choices with the same step number and separate these operations with the word "or".
- C. If an instruction is "optional", or not an essential step to perform, it does not have to be numbered.

### 4 Instructions

Briefly describe the action required in each step. Use the following rules-of-thumb when completing this portion.

- A. Step 1 should always instruct the user to "Enter Program" or "Load Side \_\_\_\_\_ of the card".
- B. If the user must "initialize" the calculator to run the program, e.g., clear the stack, clear the registers, store constants, etc., Step 2 should then instruct the user how to do so.
- C. Include helpful explanatory notes, e.g., how to correct erroneous inputs, which step to return to for a new case, etc. (See sample).

### 5 Input

Write in the variable names for input data and the appropriate units (when applicable) in which this data should be entered.

### 6 Function

Show which keys should be pressed to execute each step. Write key symbols exactly as they appear on the calculator keyboard.

### 7 Display

Write in variable names for output data and the appropriate units (when applicable) in which this data appears.

# USER INSTRUCTIONS

① Page 4 of 8

| ③    | ④  | ⑤     | ②          | SIZE: 010         |
|------|--|-------|------------|-------------------|
| STEP | INSTRUCTIONS   | INPUT | ⑥ FUNCTION | ⑦ DISPLAY         |
| 1.   | Enter the program, check status, and set USER mode.      |       |            |                   |
| 2.   | To clear the financial registers                         |       | ■ [A]      | N, I, PV, PMT, FV |
| 3.   | Store inputs as desired:                                 |       |            |                   |
|      | • number of periods                                      | N     | [A]        | N                 |
|      | • periodic interest rate (%)                             | I     | [B]        | I                 |
|      | • present value of investment                            | PV*   | [C]        | PV                |
|      | • periodic payment                                       | PMT*  | [D]        | PMT               |
|      | • future value of investment                             | FV*   | [E]        | FV                |
| 4.   | Compute desired output:                                  |       |            |                   |
|      | • number of periods                                      |       | [A]        | N = (N)           |
|      | • periodic interest rate                                 |       | [B]        | I = (I) %         |
|      | • present value of investment                            |       | [C]        | PV = \$(PV) *     |
|      | • periodic payment                                       |       | [D]        | PMT = \$(PMT) *   |
|      | • future value of investment                             |       | [E]        | FV = \$(FV) *     |
| 5.   | Return to step 4 to re-compute any of the five values or |       |            |                   |
|      | return to step 3 to change any values.                   |       |            |                   |
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|      | *Positive for cash received; negative for cash paid out. |       |            |                   |
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## PROGRAM LISTING

**Note:** *This page will be photocopied and sent as part of the documentation package to purchasers of your program. PLEASE TYPE, IF POSSIBLE.*

This form shows the program steps required to key your program into memory.

**1 Page Number**

Continue the sequential numbering of your program documentation.

**2 Calculator Model Numbering**

Check the box that designates the calculator from which the listing was generated.

**3 Step/Line**

List each step number (67/97) or line number (41C).

**4 Key Entry**

List the instruction mnemonic or abbreviation for that step number (e.g., 10<sup>x</sup>, STO + 3, SIN, etc.). Be consistent with the Owner's Handbook. Owners with printers may tape or glue a printed listing in this area.\*

**5 Key Code (67/97 Only)**

Enter the keycode corresponding to 4 above. Always write the code directly across from the instruction to which it pertains.

**6 Comments**

To assist the user in understanding operational steps or routines within your program, provide enough explanatory comments to indicate what is taking place within the program. This is essential information since whoever buys your program may want to modify it for their needs. The lack of comments may cause your program to be rejected by the Library.

**\*WARNING:** Be sure to keep tape off of the printed characters. Remember that this documentation is photocopied and a clear copy cannot be made through tape. Chemicals in adhesives used on the thermal listing cause characters on the listing to fade. 97 owners can get 224 steps on two pages by pasting 56 steps on each side and extending a bit beyond the printed lines. It is okay to cover the black lines with the printout. The Library recommends the use of rubber cement or transparent tape to secure the listings to the Program Listing form.

HP-82143A owners should print a double wide listing. To obtain a double wide listing:

1. Turn off the 41C.
2. Plug the printer in.
3. Turn on both the printer and the 41C.
4. Clear flag 13.
5. Set flag 12.
6. ☐ XEQ ☐ ALPHA PRP ☐ ALPHA
7. ☐ ALPHA (Name of program) ☐ ALPHA  
optional

Be sure the print intensity is dark enough to produce a clear photocopy.



# PROGRAM LISTING

① Page 5 of 8

② ☐ 67 ☐ 97 ☒ 41C

| ③ STEP/<br>LINE | ④ KEY ENTRY | ⑤ KEY CODE<br>(67/97 only) | ⑥ COMMENTS                 | STEP/<br>LINE | KEY ENTRY | KEY CODE<br>(67/97 only) | COMMENTS         |
|-----------------|-------------|----------------------------|----------------------------|---------------|-----------|--------------------------|------------------|
|                 | 01 ♦ LBL A  |                            | Store N.                   | 51            | ABS       |                          | Newton's method. |
|                 | 02 STO 01   |                            | If new data, then stop,    | 52            | RCL 04    |                          |                  |
|                 | 03 FS?C 22  |                            | else calculate new N.      | 53            | RCL 01    |                          |                  |
|                 | 04 RTN      |                            |                            | 54            | *         |                          |                  |
|                 | 05 RCL 04   |                            |                            | 55            | RCL 03    |                          |                  |
|                 | 06 RCL 09   |                            |                            | 56            | +         |                          |                  |
|                 | 07 /        |                            |                            | 57            | ABS       |                          |                  |
|                 | 08 STO 00   |                            |                            | 58            | -         |                          |                  |
|                 | 09 RCL 05   |                            |                            | 59            | RCL 04    |                          |                  |
|                 | 10 -        |                            |                            | 60            | RCL 01    |                          |                  |
|                 | 11 RCL 03   |                            |                            | 61            | *         |                          |                  |
|                 | 12 RCL 00   |                            |                            | 62            | RCL 05    |                          |                  |
|                 | 13 +        |                            |                            | 63            | +         |                          |                  |
|                 | 14 /        |                            |                            | 64            | ABS       |                          |                  |
|                 | 15 LN       |                            |                            | 65            | RCL 03    |                          |                  |
|                 | 16 RCL 09   |                            |                            | 66            | ABS       |                          |                  |
|                 | 17 LN1+X    |                            |                            | 67            | -         |                          |                  |
|                 | 18 /        |                            |                            | 68            | *         |                          |                  |
|                 | 19 STO 01   |                            |                            | 69            | ENTER↑    |                          |                  |
|                 | 20 "N="     |                            |                            | 70            | ABS       |                          |                  |
|                 | 21 ARCL X   |                            |                            | 71            | /         |                          |                  |
|                 | 22 AVIEW    |                            | Display new N.             | 72            | 1 E-9     |                          |                  |
|                 | 23 RTN      |                            |                            | 73            | *         |                          |                  |
|                 | 24 ♦ LBL B  |                            |                            | 74            | STO 09    |                          |                  |
|                 | 25 STO 02   |                            |                            | 75 ♦ LBL 06   |           |                          |                  |
|                 | 26 1 E2     |                            | Store I and some functions | 76            | XEQ 08    |                          | Begin Loop.      |
|                 | 27 /        |                            | of I.                      | 77            | RCL 04    |                          |                  |
|                 | 28 STO 09   |                            |                            | 78            | *         |                          |                  |
|                 | 29 1        |                            |                            | 79            | RCL 03    |                          |                  |
|                 | 30 +        |                            |                            | 80            | +         |                          |                  |
|                 | 31 STO 07   |                            |                            | 81            | RCL 05    |                          |                  |
|                 | 32 RCL 02   |                            |                            | 82            | RCL 08    |                          |                  |
|                 | 33 FS?C 22  |                            |                            | 83            | *         |                          |                  |
|                 | 34 RTN      |                            |                            | 84            | +         |                          |                  |
|                 | 35 RCL 04   |                            | If new data, then stop,    | 85            | RCL 08    |                          |                  |
|                 | 36 X≠0?     |                            | else if PMT = 0, then com- | 86            | RCL 07    |                          |                  |
|                 | 37 GTO 01   |                            | pute I by simple formula.  | 87            | /         |                          |                  |
|                 | 38 RCL 05   |                            |                            | 88            | RCL 01    |                          |                  |
|                 | 39 RCL 03   |                            |                            | 89            | *         |                          |                  |
|                 | 40 /        |                            |                            | 90            | STO 06    |                          |                  |
|                 | 41 CHS      |                            |                            | 91            | 1         |                          |                  |
|                 | 42 RCL 01   |                            |                            | 92            | RCL 08    |                          |                  |
|                 | 43 1/X      |                            |                            | 93            | -         |                          |                  |
|                 | 44 Y↑X      |                            |                            | 94            | RCL 09    |                          |                  |
|                 | 45 1        |                            |                            | 95            | /         |                          |                  |
|                 | 46 -        |                            |                            | 96            | -         |                          |                  |
|                 | 47 STO 09   |                            |                            | 97            | RCL 04    |                          |                  |
|                 | 48 GTO 00   |                            |                            | 98            | RCL 09    |                          |                  |
|                 | 49 ♦ LBL 01 |                            |                            | 99            | /         |                          |                  |
|                 | 50 RCL 05   |                            | Else compute new I by      | 100           | *         |                          |                  |

Note: Refer to "HP-41C OWNER'S HANDBOOK AND PROGRAMMING GUIDE" for specific information on keystrokes. The Function Index is found at the very back of the Handbook. Refer to Appendix E in 67 or 97 "OWNER'S HANDBOOK AND PROGRAMMING GUIDE" for exact keystrokes.

## PROGRAM LISTING (second page)

**Note:** This page will be photocopied and sent as part of the documentation package to purchasers of your program. PLEASE TYPE, IF POSSIBLE.

This form continues the listing of program steps begun on the previous Program Listing page. See previous instructions for Key Entry, Key Code, and Comments. Use as many of these pages as necessary to document the steps/lines of your program.

### 1 Page Number

Continue the sequential numbering of your program documentation.

### 2 Calculator Model Number

Check the box that designates the calculator from which the listing was generated.

### 3 Steps/Lines

Continue numbering the steps/lines sequentially. For step 101, just add a 1 in front of the 01. Notice in our example that we pasted the last two steps on the second Program Listing page, rather than starting a third page.

# PROGRAM LISTING

① Page 6 of 8

② ☐ 67 ☐ 97 ☒ 41C

| STEP/<br>LINE | KEY ENTRY | KEY CODE<br>(67/97 only) | COMMENTS                                       | STEP/<br>LINE | KEY ENTRY | KEY CODE<br>(67/97 only) | COMMENTS  |
|---------------|-----------|--------------------------|--|---------------|-----------|--------------------------|---|
| 101           | RCL 05    |                          |  | 151           | STO 04    |                          |   |
| 102           | RCL 06    |                          |  | 152           | "PMT=\$"  |                          |   |
| 103           | *         |                          |  | 153           | ARCL X    |                          | Display new PMT.  |
| 104           | -         |                          |  | 154           | AVIEW     |                          |   |
| 105           | /         |                          |  | 155           | RTN       |                          |   |
| 106           | ST- 09    |                          |  | 156           | LBL E     |                          |   |
| 107           | ABS       |                          |  | 157           | STO 05    |                          |   |
| 108           | 1 E-7     |                          |  | 158           | FS?C 22   |                          | Store FV.   |
| 109           | X<=Y?     |                          | If I not small, then repeat loop.              | 159           | RTN       |                          | If new data, then stop, else compute new FV.            |
| 110           | GTO 06    |                          |  | 160           | XEQ 08    |                          |   |
| 111           | RCL 09    |                          |  | 161           | RCL 04    |                          |   |
| 112           | LBL 00    |                          |  | 162           | *         |                          |   |
| 113           | 1 E2      |                          |  | 163           | RCL 03    |                          |   |
| 114           | *         |                          |  | 164           | +         |                          |   |
| 115           | STO 02    |                          |  | 165           | RCL 08    |                          |   |
| 116           | "I="      |                          |  | 166           | /         |                          |   |
| 117           | ARCL X    |                          | Display new I.                                 | 167           | CHS       |                          |   |
| 118           | "I%"      |                          |  | 168           | STO 05    |                          |   |
| 119           | AVIEW     |                          |  | 169           | "FV=\$"   |                          |   |
| 120           | RTN       |                          |  | 170           | ARCL X    |                          |   |
| 121           | LBL C     |                          |  | 171           | AVIEW     |                          |   |
| 122           | STO 03    |                          |  | 172           | RTN       |                          |   |
| 123           | FS?C 22   |                          | Store PV.                                      | 173           | LBL 08    |                          |   |
| 124           | RTN       |                          | If new data, then stop, else compute new PV.   | 174           | 1         |                          | Subroutine to compute $(1+i)^{-N}$ and $1 - (1+i)^{-N}$ |
| 125           | RCL 04    |                          |  | 175           | XEQ 09    |                          |   |
| 126           | XEQ 08    |                          |  | 176           | RCL 01    |                          |   |
| 127           | *         |                          |  | 177           | CHS       |                          |   |
| 128           | RCL 05    |                          |  | 178           | Y↑X       |                          |   |
| 129           | RCL 08    |                          |  | 179           | STO 08    |                          |   |
| 130           | *         |                          |  | 180           | -         |                          |   |
| 131           | +         |                          |  | 181           | RCL 09    |                          |   |
| 132           | CHS       |                          |  | 182           | /         |                          |   |
| 133           | STO 03    |                          |  | 183           | RTN       |                          |   |
| 134           | "PV=\$"   |                          |  | 184           | LBL 09    |                          |   |
| 135           | ARCL X    |                          | Display new PV.                                | 185           | RCL 09    |                          |   |
| 136           | AVIEW     |                          |  | 186           | 1         |                          | Subroutine to compute $1+i$ .                           |
| 137           | RTN       |                          |  | 187           | +         |                          |   |
| 138           | LBL 0     |                          |  | 188           | STO 07    |                          |   |
| 139           | STO 04    |                          |  | 189           | RTN       |                          |   |
| 140           | FS?C 22   |                          | Store PMT.                                     | 190           | LBL a     |                          |   |
| 141           | RTN       |                          | If new value, then stop, else compute new PMT. | 191           | CLX       |                          |   |
| 142           | XEQ 08    |                          |  | 192           | STO 01    |                          |   |
| 143           | 1/X       |                          |  | 193           | STO 02    |                          |   |
| 144           | RCL 03    |                          |  | 194           | STO 03    |                          |   |
| 145           | RCL 05    |                          |  | 195           | STO 04    |                          |   |
| 146           | RCL 08    |                          |  | 196           | STO 05    |                          |   |
| 147           | *         |                          |  | 197           | STO 09    |                          |   |
| 148           | +         |                          |  | 198           | "N, I, P  |                          |   |
| 149           | *         |                          |  | 199           | "FV"      |                          |   |
| 150           | CHS       |                          |  | 200           | AVIEW     |                          |   |
|               |           |                          |  | 201           | RTN       |                          |   |
|               |           |                          |  | 202           | END       |                          |   |

Note: Refer to "HP-41C OWNER'S HANDBOOK AND PROGRAMMING GUIDE" for specific information on keystrokes. The Function Index is found at the very back of the Handbook. Refer to Appendix E in 67 or 97 "OWNER'S HANDBOOK AND PROGRAMMING GUIDE" for exact keystrokes.



## REGISTERS, STATUS, FLAGS, ASSIGNMENTS

**Note:** This page will be photocopied and sent as part of the documentation package to purchasers of your program. PLEASE TYPE, IF POSSIBLE.

### 1 Page Number

Continue the sequential numbering of your program documentation.

### 2 Data Registers

Describe the contents of the data registers with either a numeric value or a written description.

Example: Reg 00 100  
 Reg 01 12  
 Reg 02 PMT (to imply "payment")

### 3 Status

Size (41C only)—Number of registers for data storage.

Tot. Reg. (41C only) Total number of registers used for data and program.

To compute total registers used,  $N$ :

| Instruction:  | Input:  | Function:   | Display:              |
|---|---------|---|-----------------------|
| 1. Set the correct data register size               |         | <input type="button" value="XEQ"/> <input type="button" value="ALPHA"/> SIZE <input type="button" value="ALPHA"/> nnn |                       |
| 2. Pack program memory                              |         | <input type="button" value="XEQ"/> <input type="button" value="ALPHA"/> PACK <input type="button" value="ALPHA"/>     | <b>PACKING</b>        |
| 3. Move the program pointer to line 000             |         | <input type="button" value="GTO"/> <input type="button" value="0"/> 000   |                       |
| 4. Switch to PRGM mode and remember the value $R$ . |         | <input type="button" value="PRGM"/>   | <b>00 REG R</b>       |
| 5. Switch to RUN mode                               |         | <input type="button" value="PRGM"/>   |                       |
| 6. Key in the number of Memory Modules + 1          | $M + 1$ | <input type="button" value="ENTER"/>  |                       |
| 7. Multiply by 64                                   | 64      | <input type="button" value="X"/>  |                       |
| 8. Subtract 1                                       | 1       | <input type="button" value="-"/>  |                       |
| 9. Subtract $R$                                     | $R$     | <input type="button" value="-"/>  | <b><math>N</math></b> |

User Mode (41C)—Indicate ON or OFF.

Display Mode—Set the appropriate display mode.

ENG 0-9  
 FIX 0-9 See the Owner's Handbook  
 SCI 0-9

Trig Mode Selector—Check degrees, radians or grads.

### 4 Flags

Write the number of any flags used, 0-3 (67/97) or 00-29 (41C).

#### Init S/C

Indicate with an "S" for set or a "C" for clear the initial status of the flags at the beginning of your program.

#### Set Indicates

Write a description of what the set flag indicates.

#### Clear Indicates

Write a description of what the clear flag indicates.

### 5 Assignments (41C)

Function: rename the key, e.g., BEEP

Key: write key name that is being reassigned, e.g.,

## REGISTERS, STATUS, FLAGS, ASSIGNMENTS

| ② DATA REGISTERS |       |    |  | ③ STATUS      |              |               |                  |
|------------------|-------|----|--|---------------|--------------|---------------|------------------|
| 00               | USED  | 50 |  | SIZE 010      | TOT. REG. 50 | USER MODE     |                  |
|                  | N     |    |  | ENG           | FIX 2        | SCI           | ON X OFF         |
|                  | I     |    |  | DEG X         | RAD          | GRAD          |                  |
|                  | PV    |    |  |               |              |               |                  |
|                  | PMT   |    |  |               |              |               |                  |
| 05               | FV    | 55 |  | ④ FLAGS       |              |               |                  |
|                  | USED  |    |  | #             | INIT S/C     | SET INDICATES | CLEAR INDICATES  |
|                  | 1 + i |    |  | 22            | C            | Digit entered | No digit entered |
|                  | USED  |    |  |               |              |               |                  |
|                  | i     |    |  |               |              |               |                  |
| 10               |       | 60 |  |               |              |               |                  |
|                  |       |    |  |               |              |               |                  |
|                  |       |    |  |               |              |               |                  |
|                  |       |    |  |               |              |               |                  |
| 15               |       | 65 |  |               |              |               |                  |
|                  |       |    |  |               |              |               |                  |
|                  |       |    |  |               |              |               |                  |
|                  |       |    |  |               |              |               |                  |
| 20               |       | 70 |  |               |              |               |                  |
|                  |       |    |  |               |              |               |                  |
|                  |       |    |  |               |              |               |                  |
|                  |       |    |  |               |              |               |                  |
| 25               |       | 75 |  |               |              |               |                  |
|                  |       |    |  |               |              |               |                  |
|                  |       |    |  |               |              |               |                  |
|                  |       |    |  |               |              |               |                  |
| 30               |       | 80 |  |               |              |               |                  |
|                  |       |    |  |               |              |               |                  |
|                  |       |    |  |               |              |               |                  |
|                  |       |    |  |               |              |               |                  |
| 35               |       | 85 |  |               |              |               |                  |
|                  |       |    |  |               |              |               |                  |
|                  |       |    |  |               |              |               |                  |
|                  |       |    |  |               |              |               |                  |
| 40               |       | 90 |  | ⑤ ASSIGNMENTS |              |               |                  |
|                  |       |    |  | FUNCTION      | KEY          | FUNCTION      | KEY              |
|                  |       |    |  |               |              |               |                  |
|                  |       |    |  |               |              |               |                  |
|                  |       |    |  |               |              |               |                  |
| 45               |       | 95 |  |               |              |               |                  |
|                  |       |    |  |               |              |               |                  |
|                  |       |    |  |               |              |               |                  |
|                  |       |    |  |               |              |               |                  |

## KEYBOARD/CARD LABELING

**Note:** This page will be photocopied and sent as part of the documentation package to purchasers of your program. PLEASE TYPE, IF POSSIBLE.

### 1 Page Number

Continue the sequential numbering of your program documentation.

### 2 Keyboard (41C only)

Label any key reassignments (shifted functions above the key).

### 3 System Configuration (41C only)

List any extra memory modules or peripherals required, e.g., printer.

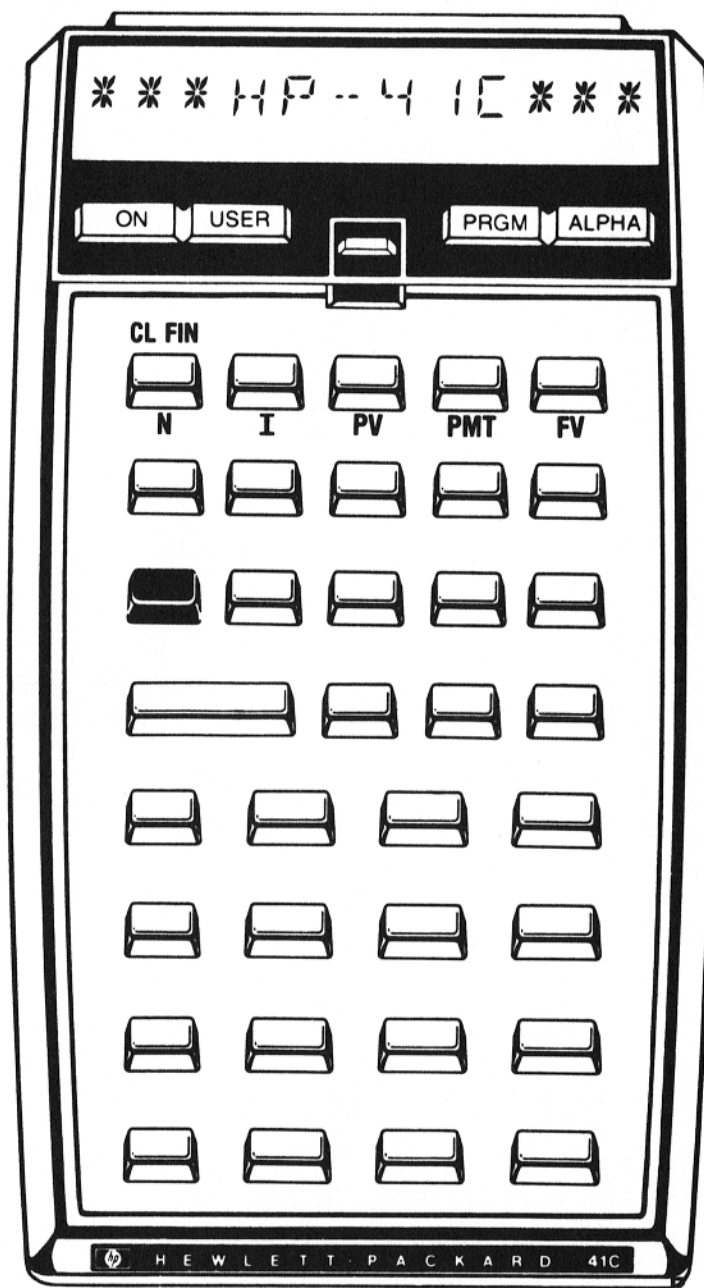
### 4 Card

Label the pictured card exactly as you have your recorded magnetic card included with your submittal. Be sure to protect your recorded cards by clipping the corners as shown in the diagram.

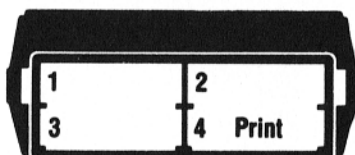


# KEYBOARD CARD LABELING

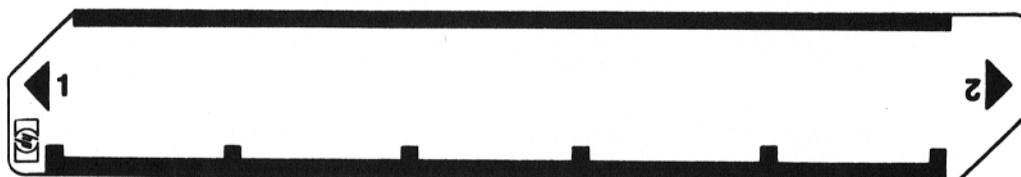
② KEYBOARD



③ SYSTEM  
CONFIGURATION



④ CARD





# **APPLICATION CATEGORY TABLE AND DOCUMENTATION FORMS**

# APPLICATION CATEGORY TABLE

|   |                                     |  |  |
|---|-------------------------------------|--|--|
| <b>000 BUSINESS &amp; FINANCE (GENERAL)</b>           |                                     |  |  |
| 001   | SEE ALSO: HOME COMPUTING            |  |  |
| 002   | ACCOUNTING                          |  |  |
| 003   | LENDING/SAVINGS                     |  |  |
| 004   | GENERAL INVESTMENT ANALYSIS         |  |  |
| 005   | REAL ESTATE                         |  |  |
| 006   | SECURITIES                          |  |  |
| 007   | INVENTORY CONTROL                   |  |  |
| 008   | LEASING                             |  |  |
| 009   | FORECASTING/PLANNING                |  |  |
| 010   | INDUSTRIAL PRODUCTION               |  |  |
| 011   | MARKETING/SALES                     |  |  |
| 012   | INSURANCE/RETIREMENT                |  |  |
|   | TAXES                               |  |  |
| <b>100 ENGINEERING (GENERAL)</b>                      |                                     |  |  |
| 110   | AERONAUTICAL ENGINEERING            |  |  |
| 120   | CHEMICAL ENGINEERING                |  |  |
| 130   | CIVIL ENGINEERING                   |  |  |
| 131   | Hydraulics                          |  |  |
| 140   | ELECTRICAL & ELECTRONIC ENGINEERING |  |  |
| 141   | Circuits                            |  |  |
| 142   | Fields & Waves                      |  |  |
| 143   | Dynamic Systems                     |  |  |
| 144   | Antennas                            |  |  |
| 150   | INDUSTRIAL ENGINEERING              |  |  |
|   | SEE ALSO: BUSINESS & FINANCE        |  |  |
| 160   | MECHANICAL ENGINEERING              |  |  |
| 170   | NUCLEAR ENGINEERING                 |  |  |
| 180   | PETROLEUM ENGINEERING               |  |  |
| 190   | SOLAR ENGINEERING                   |  |  |
| <b>200 MATH &amp; NUMERICAL ANALYSIS</b>              |                                     |  |  |
| 201   | NUMBER THEORY                       |  |  |
| 202   | SERIES/SEQUENCES/PROGRESSIONS       |  |  |
| 203   | POLYNOMIALS                         |  |  |
| 204   | TRIG/ANALYTIC GEOMETRY              |  |  |
| 205   | INTEGRATION                         |  |  |
| 206   | DIFFERENTIAL EQUATIONS              |  |  |
| 207   | COMPLEX VARIABLES                   |  |  |
| 208   | SPECIAL FUNCTIONS                   |  |  |
| 209   | INTERPOLATION                       |  |  |
| 210   | LINEAR SYSTEMS/MATRICES             |  |  |
| 211   | PLOTTING ROUTINES                   |  |  |
| 212   | EXTENDED PRECISION                  |  |  |
| <b>300 PROBABILITY &amp; STATISTICS</b>               |                                     |  |  |
| 301   | GENERAL STATISTICS                  |  |  |
| 302   | PROBABILITY                         |  |  |
| 303   | PROBABILITY DISTRIBUTION            |  |  |
| 304   | CURVE FIT/REGRESSION/CORRELATION    |  |  |
| 305   | ANALYSIS OF VARIANCE                |  |  |
| 306   | PARAMETRIC INFERENCE                |  |  |
| 307   | NON-PARAMETRIC INFERENCE            |  |  |
| 308   | QUALITY ASSURANCE/RELIABILITY       |  |  |
| <b>400 APPLIED SCIENCES</b>                           |                                     |  |  |
| 410   | AGRICULTURE                         |  |  |
| 420   | EARTH SCIENCES                      |  |  |
| 421   | Atmospheric Sciences                |  |  |
| 422   | Oceanography                        |  |  |
| 430   | FORESTRY                            |  |  |
| 440   | HYDROLOGY                           |  |  |
| 450   | SPACE SCIENCES                      |  |  |
| 460   | COMPUTER SCIENCE                    |  |  |
| 470   | SURVEYING                           |  |  |
| <b>500 NATURAL SCIENCES (GENERAL)</b>                 |                                     |  |  |
| 510   | ASTRONOMY                           |  |  |
| 520   | BIOLOGY                             |  |  |
| 521   | Ecology                             |  |  |
| 522   | Genetics                            |  |  |
| 530   | CHEMISTRY                           |  |  |
| 531   | BIOCHEMISTRY                        |  |  |
| 540   | GEOLOGY                             |  |  |
| 550   | OPTICS                              |  |  |
| 560   | PHYSICS                             |  |  |
| <b>600 SOCIAL &amp; BEHAVIORAL SCIENCES (GENERAL)</b> |                                     |  |  |
| 610   | EDUCATION                           |  |  |
| 620   | PSYCHOLOGY                          |  |  |
|   | SEE ALSO: PROBABILITY & STATISTICS  |  |  |
| 630   | SOCIOLOGY                           |  |  |
| <b>700 MEDICAL ARTS &amp; SCIENCES (GENERAL)</b>      |                                     |  |  |
|   | SEE ALSO: NATURAL SCIENCES          |  |  |
|   | APPLIED SCIENCES                    |  |  |
| 710   | MEDICINE (GENERAL)                  |  |  |
| 711   | Emergency & Critical Care           |  |  |
| 712   | Cardiopulmonary Medicine            |  |  |
| 713   | Blood Chemistry                     |  |  |
| 714   | Drug Dosing Calculations            |  |  |
| 715   | Clinical Laboratory                 |  |  |
| 716   | Radioimmunoassay                    |  |  |
| 717   | Anesthesia                          |  |  |
| 720   | DENTISTRY                           |  |  |
| 730   | OPTOMETRY                           |  |  |
| 740   | VETERINARIAN SCIENCES               |  |  |
| 750   | NUTRITION                           |  |  |
| <b>800 HOME COMPUTING (GENERAL)</b>                   |                                     |  |  |
| 810   | EDUCATION                           |  |  |
| 820   | GAMES (GENERAL)                     |  |  |
| 821   | Board & Table Games                 |  |  |
| 822   | Games of Chance                     |  |  |
| 823   | Number & Word Games                 |  |  |
| 830   | PERSONAL FINANCES                   |  |  |
|   | SEE ALSO: BUSINESS & FINANCE        |  |  |
| 840   | HOBBIES                             |  |  |
| <b>900 OTHER</b>                                      |                                     |  |  |
| 910   | AVIATION                            |  |  |
| 911   | Aviation                            |  |  |
| 912   | Aircraft Operation                  |  |  |
| 920   | MARINE NAVIGATION                   |  |  |
| 921   | Ship Stability                      |  |  |
| 922   | Yachting                            |  |  |
| 930   | PHOTOGRAPHY                         |  |  |
| 940   | DATE/CALENDAR                       |  |  |
| 950   | TIME                                |  |  |
| 960   | BIORHYTHMS                          |  |  |
| 970   | DRAFTING/DESIGN                     |  |  |
|   | SEE ALSO: MECHANICAL ENGINEERING    |  |  |
| 980   | CONVERSIONS                         |  |  |



# PROGRAM SUBMITTAL

☐ New Program

☐ Revision to Program

Model No.

☐ 67

☐ 97

☐ 41C

Program Title

No. of Steps/Lines

Category No.

Category Name

Abstract — 50 Word Maximum

Necessary Accessories:

Name

Company

Address

City

State/Country

Zip Code

Phone Number ( )

If my program is accepted, my bonus choice is:

☐ FOUR PROGRAMS

OR

☐ CREDIT FOR FOUR PROGRAMS\*

\* No partial credit will be given. Select all four programs at the same time.

Submittal Checklist:

Please use the checklist below to insure submittal of all proper program documentation.

☐ Program Submittal

☐ Program Description II

☐ Program Listing(s)

☐ Registers, Status ...

☐ Program Description I

☐ User Instructions

☐ Magnetic Card(s)

☐ Keyboard, Card Labeling  
(optional)

## ACKNOWLEDGMENT AND AGREEMENT

To the best of my knowledge, I have the right to contribute this program material without breaching any obligation concerning nondisclosure of proprietary or confidential information of other persons or organizations. I am contributing this program material on a nonconfidential nonobligatory basis to Hewlett-Packard Company ("HP") for inclusion in its program library, and I agree that HP may use, duplicate, modify, publish, and sell the program material, and authorize others to do so without obligation or liability of any kind. HP may publish my name and address, as the contributor, to facilitate user inquiries pertaining to this program material.

Signature

Date



## Page of

**City** ..... **State/Country** ..... **Zip Code** .....

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## PROGRAM DESCRIPTION II

Page of

**Sample Problem** (Sketch if Desired)

**SOLUTION:**

[illegible]



## USER INSTRUCTIONS

Page of

[illegible]





# PROGRAM LISTING

Page      of

☐ 67    ☐ 97    ☐ 41C

| STEP/<br>LINE | KEY ENTRY | KEY CODE<br>(67/97 only) | COMMENTS | STEP/<br>LINE | KEY ENTRY | KEY CODE<br>(67/97 only) | COMMENTS |
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| 01            |           |                          |          | 51            |           |                          |          |
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**Note:** Refer to "HP-41C OWNER'S HANDBOOK AND PROGRAMMING GUIDE" for specific information on keystrokes. The Function Index is found at the very back of the Handbook. Refer to Appendix E in 67 or 97 "OWNER'S HANDBOOK AND PROGRAMMING GUIDE" for exact keystrokes.



# PROGRAM LISTING

Page      of

☐ 67    ☐ 97    ☐ 41C

| STEP/<br>LINE | KEY ENTRY | KEY CODE<br>(67/97 only) | COMMENTS | STEP/<br>LINE | KEY ENTRY | KEY CODE<br>(67/97 only) | COMMENTS |
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# PROGRAM LISTING

Page      of

☐ 67    ☐ 97    ☐ 41C

| STEP/<br>LINE | KEY ENTRY | KEY CODE<br>(67/97 only) | COMMENTS | STEP/<br>LINE | KEY ENTRY | KEY CODE<br>(67/97 only) | COMMENTS |
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| 50            |           |                          |          | 00            |           |                          |          |

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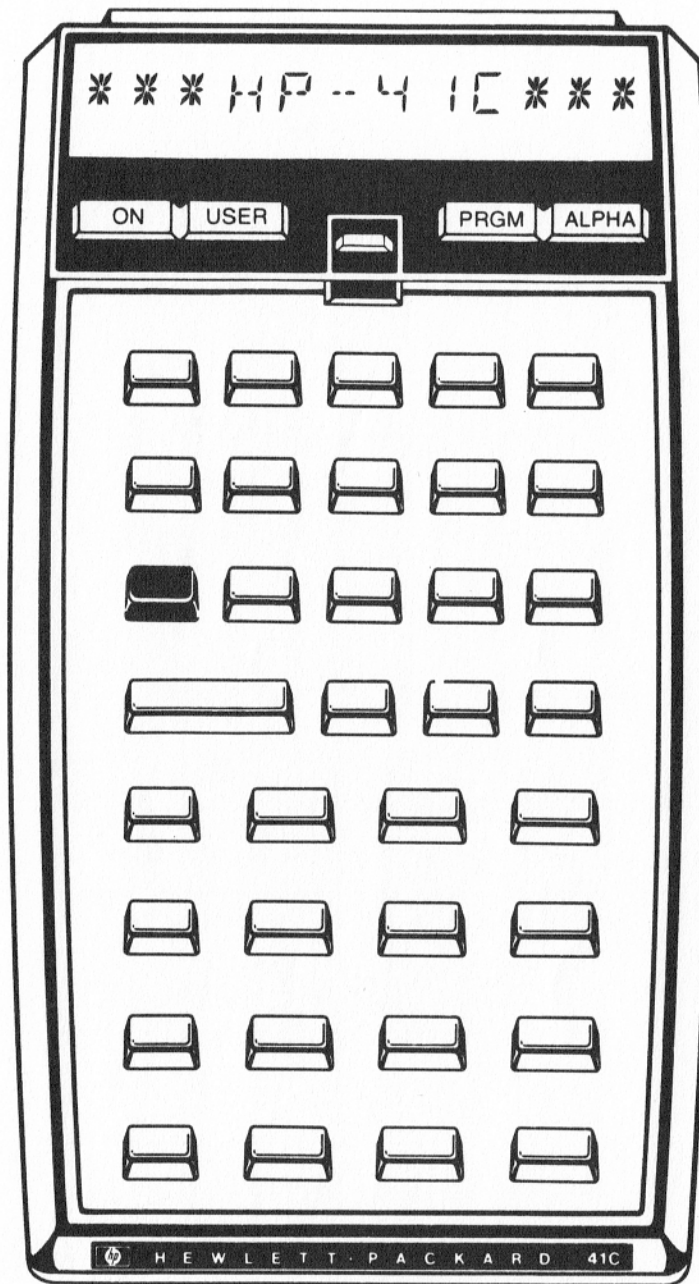




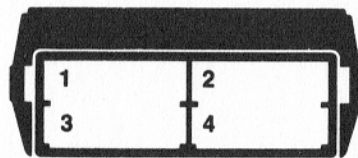
# KEYBOARD CARD LABELING

Page      of

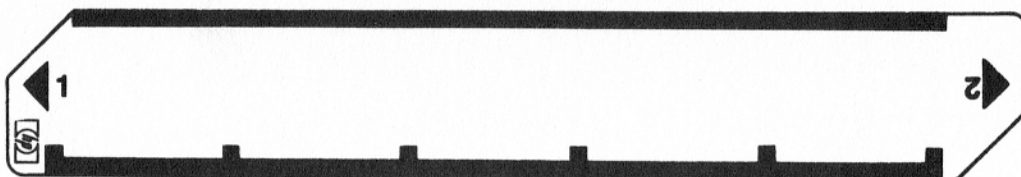
KEYBOARD



SYSTEM  
CONFIGURATION



CARD





## (CONTINUATION PAGE)

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.





# PROGRAM SUBMITTAL

☐ New Program

☐ Revision to Program

Model No.

☐ 67

☐ 97

☐ 41C

Program Title

No. of Steps/Lines

Category No.

Category Name

Abstract — 50 Word Maximum

Necessary Accessories:

Name

Company

Address

City

State/Country

Zip Code

Phone Number ( )

If my program is accepted, my bonus choice is:

☐ FOUR PROGRAMS

OR

☐ CREDIT FOR FOUR PROGRAMS\*

\* No partial credit will be given. Select all four programs at the same time.

Submittal Checklist:

Please use the checklist below to insure submittal of all proper program documentation.

☐ Program Submittal

☐ Program Description II

☐ Program Listing(s)

☐ Registers, Status ...

☐ Program Description I

☐ User Instructions

☐ Magnetic Card(s)

☐ Keyboard, Card Labeling  
(optional)

## ACKNOWLEDGMENT AND AGREEMENT

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Signature

Date



## Page of

**City** \_\_\_\_\_ **State/Country** \_\_\_\_\_ **Zip Code** \_\_\_\_\_

### Program Description, Equations, Variables

### Necessary Accessories

## Operating Limits and Warnings

Reference(s)

This program has been verified only with respect to the numerical example given in *Program Description II*. User accepts and uses this program material AT HIS OWN RISK, in reliance solely upon his own inspection of the program material and without reliance upon any representation or description concerning the program material.

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## PROGRAM DESCRIPTION II

Page of

**Sample Problem** (Sketch if Desired)

**SOLUTION:**

[illegible]



## USER INSTRUCTIONS

Page of

[illegible]





# PROGRAM LISTING

Page      of

☐ 67    ☐ 97    ☐ 41C

| STEP/<br>LINE | KEY ENTRY | KEY CODE<br>(67/97 only) | COMMENTS | STEP/<br>LINE | KEY ENTRY | KEY CODE<br>(67/97 only) | COMMENTS |
|---------------|-----------|--------------------------|----------|---------------|-----------|--------------------------|----------|
| 01            |           |                          |          | 51            |           |                          |          |
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# PROGRAM LISTING

Page      of

☐ 67    ☐ 97    ☐ 41C

| STEP/<br>LINE | KEY ENTRY | KEY CODE<br>(67/97 only) | COMMENTS | STEP/<br>LINE | KEY ENTRY | KEY CODE<br>(67/97 only) | COMMENTS |
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| 01            |           |                          |          | 51            |           |                          |          |
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| 50            |           |                          |          | 00            |           |                          |          |

**Note:** Refer to "HP-41C OWNER'S HANDBOOK AND PROGRAMMING GUIDE" for specific information on keystrokes. The Function Index is found at the very back of the Handbook. Refer to Appendix E in 67 or 97 "OWNER'S HANDBOOK AND PROGRAMMING GUIDE" for exact keystrokes.





# PROGRAM LISTING

Page      of

☐ 67    ☐ 97    ☐ 41C

| STEP/<br>LINE | KEY ENTRY | KEY CODE<br>(67/97 only) | COMMENTS | STEP/<br>LINE | KEY ENTRY | KEY CODE<br>(67/97 only) | COMMENTS |
|---------------|-----------|--------------------------|----------|---------------|-----------|--------------------------|----------|
| 01            |           |                          |          | 51            |           |                          |          |
|               |           |                          |          |               |           |                          |          |
|               |           |                          |          |               |           |                          |          |
|               |           |                          |          |               |           |                          |          |
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|               |           |                          |          |               |           |                          |          |
|               |           |                          |          |               |           |                          |          |
|               |           |                          |          |               |           |                          |          |
| 10            |           |                          |          | 60            |           |                          |          |
|               |           |                          |          |               |           |                          |          |
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|               |           |                          |          |               |           |                          |          |
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|               |           |                          |          |               |           |                          |          |
|               |           |                          |          |               |           |                          |          |
|               |           |                          |          |               |           |                          |          |
|               |           |                          |          |               |           |                          |          |
|               |           |                          |          |               |           |                          |          |
|               |           |                          |          |               |           |                          |          |
| 20            |           |                          |          | 70            |           |                          |          |
|               |           |                          |          |               |           |                          |          |
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|               |           |                          |          |               |           |                          |          |
|               |           |                          |          |               |           |                          |          |
| 30            |           |                          |          | 80            |           |                          |          |
|               |           |                          |          |               |           |                          |          |
|               |           |                          |          |               |           |                          |          |
|               |           |                          |          |               |           |                          |          |
|               |           |                          |          |               |           |                          |          |
|               |           |                          |          |               |           |                          |          |
|               |           |                          |          |               |           |                          |          |
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|               |           |                          |          |               |           |                          |          |
|               |           |                          |          |               |           |                          |          |
|               |           |                          |          |               |           |                          |          |
|               |           |                          |          |               |           |                          |          |
|               |           |                          |          |               |           |                          |          |
| 40            |           |                          |          | 90            |           |                          |          |
|               |           |                          |          |               |           |                          |          |
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|               |           |                          |          |               |           |                          |          |
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|               |           |                          |          |               |           |                          |          |
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|               |           |                          |          |               |           |                          |          |
|               |           |                          |          |               |           |                          |          |
|               |           |                          |          |               |           |                          |          |
| 50            |           |                          |          | 00            |           |                          |          |

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[illegible]

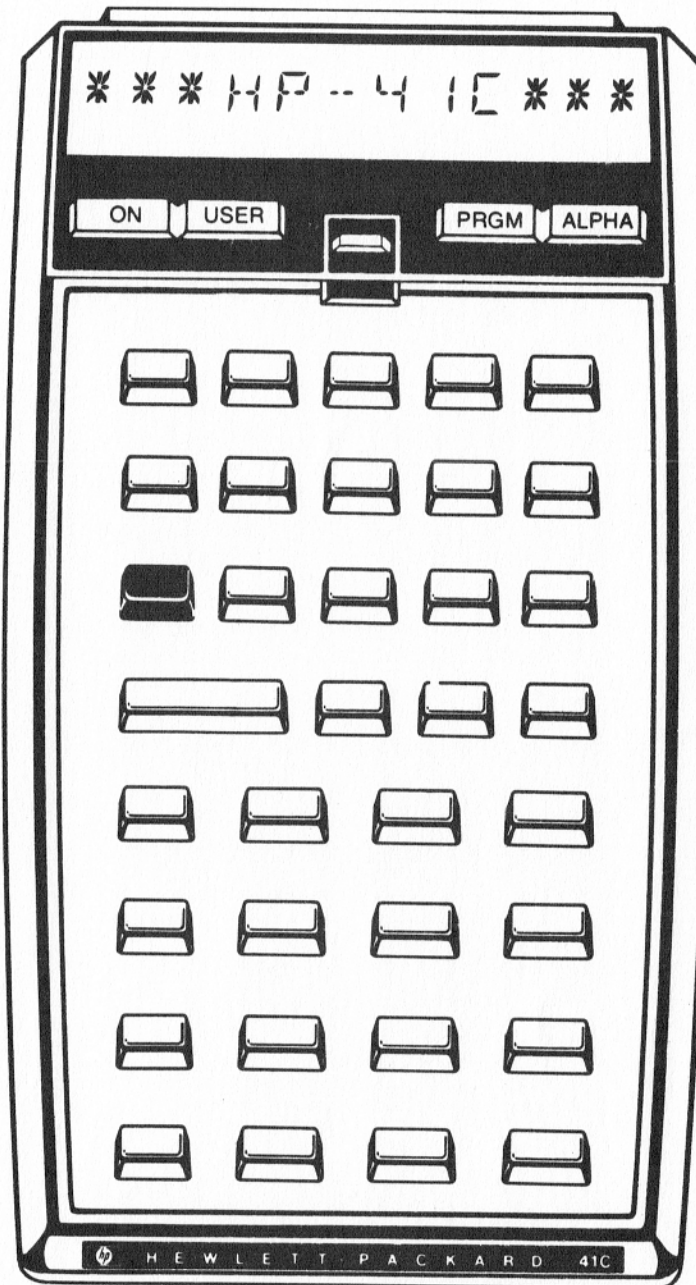




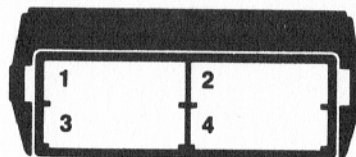
# KEYBOARD CARD LABELING

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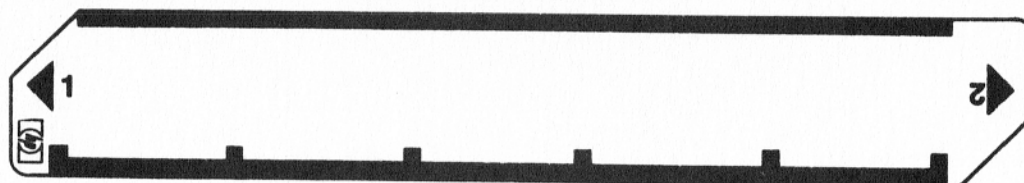
**KEYBOARD**



**SYSTEM  
CONFIGURATION**



**CARD**





(CONTINUATION PAGE)

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.







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