

```
01 LBL "SQRT" ;Square Root Function
02 5          ;Initialize Memory for Program Variables
03 SF 25      ;Variable labels predefined as numeric variables
04 PSIZE      ;REG00,X REG01,g
05 FS?C 25    ;REG02,g' REG03,Yi+1
06 GTO 00     ;REG04,Yi
07 "NO ROOM!" ;Create room in memory and test for completion
08 PROMPT
09 LBL 00
10 RDN
11 STO 00     ;Store input variable
12 2          ;Divide by 2
13 /
14 STO 01     ;Store X/2 in
15 STO 02     ;g, g', Yi+1
16 STO 03
17 LBL 01     ;Loop label
18 RCL 03     ;Yi+1
19 STO 04     ;Yi
20 RCL 00     ;Recall x
21 RCL 01     ;Recall g
22 ENTER      ;Duplicate on stack
23 *
24 -
25 RCL 04     ;Recall Yi
26 RCL 01     ;Recall g
27 +
28 /
29 RCL 01     ;Recall g
30 +
31 STO 03     ;Store result Yi+1
32 RCL 03
33 RCL 04
34 -
35 RCL 02
36 X#Y?
37 X>Y?
38 GTO 02     ;Branch on test
39 RCL 03
40 STO 01
41 10
42 /
43 STO 02
44 LBL 02     ;Test branch label
45 RCL 03
46 RCL 04
47 X#Y?
48 GTO 01     ;Branch to start of loop
49 CLRG      ;Housekeeping
50 END        ;Program end, SQRT(X) on stack
```

004AC000F5005351525415A819A65EAA19B100F84E4F20524F
4F4D218E017530124331323302233420218342412421404321
4033232441227945B30023311110433203232479B2008AC000
0D96

74 BYTES

HP-41C Square Root Function by David Logan PPC V10 N1 P48 Jan-Feb 1983

Program Registers Needed: 11

Row 1 (1 - 4)



Row 2 (5 - 7)



Row 3 (8 - 20)



Row 4 (21 - 33)



Row 5 (34 - 44)



Row 6 (45 - 50)

