

HP-41C Plot Moment and Deflection by Chuck Dinsmore  
PPC Calculator Journal Vol 9 No 4 P64 May-July 1982

```
01 LBL "PLMD" ;Plot Moment and Deflection
02 45
03 XROM 10,30 ;VS - Verify Size
04 FC?C 25
05 PROMPT
06 CLRG ;Clear Registers.
07 XROM 10,13 ;RF - Reset Flags
08 SF 21
09 55
10 XROM 10,49 ;IF - Invert Flag
11 7.007
12 STO 44 ;Set First Plot Point.
13 "Y MIN?"
14 PROMPT ;Prompt for Y Minimum.
15 STO 00
16 "Y MAX?"
17 PROMPT ;Prompt for Y Maximum.
18 STO 01
19 126
20 STO 02 ;Plot Width.
21 CF 29
22 .
23 STO 08 ;XMIN Always 0.
24 "X MAX?"
25 PROMPT ;Prompt for X MaXimum.
26 STO 09
27 "X INC?"
28 PROMPT ;Prompt for X Increment.
29 11
30 / ;Divide by 11 for Delta-X.
31 STO 10
32 "AXIS"
33 ASTO 15 ;Store 1st Function Label.
34 "MOM"
35 ASTO 16 ;Store 2nd Function Label.
36 "DEF"
37 ASTO 17 ;Store 3rd Function Label.
38 3
39 XROM 20,29 ;HP - High Resolution Plot.
40 FIX 2
41 CLX
42 XROM 10,47 ;T1 - Tone T1 Beep Alternative
43 "END OF PLOT"
44 PROMPT ;Display END OF PLOT.
45 RTN
46 LBL "AXIS" ;Axis Routine.
47 ISG 44
48 GTO 00
49 RCL M ;Recall Register M.
50 RCL N ;Recall Register N.
51 RCL O ;Recall Register O.
52 CLA
53 RCL T
54 FIX 1
55 ARCL X
56 ACA ;Place X Value Label in Print Buffer.
57 RDN
58 STO O ;Restore Register O.
59 RDN
60 STO N ;Restore Register N.
61 RDN
62 STO M ;Restore Register M.
63 RDN
64 3
65 X<>Y
66 X=0?
67 SIGN ;Determine Integer Digits in X.
```

```

68 LOG
69 INT
70 -
71 SKPCHR      ;Skip Character for X Value Width.
72 1.007
73 STO 44
74 FIX 0
75 LBL 00
76 .
77 RTN
78 LBL "MOM"    ;Location for Moment Function.
79 STO 43
80 LBL 00
81 RTN
82 LBL "DEF"    ;Location for Deflection Function.
83 STO 43
84 LBL 00
85 END

```

```

00C9C000F500504C4D441415A29EAB198E8AA28DA8151515A2
B1171A101017912CF659204D494E3F8E30F659204D41583F8E
3111121632A91D1A38F658204D41583F8E39F65820494E433F
8E1111433AF4415849539A0FF34D4F4D9A10F34445469A1113
A51D9C0277A2AFFB454E44204F4620504C4F548E85C000F500
41584953962CB1009075907690778790709C019B73A7417591
77759176759175751371677A566841A756111A101017912C9C
00011A85C000F4004D4F4D912B0185C000F400444546912B01
C0000DC5

```

201 BYTES

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```

01 LBL "PRMD" ;Print Moment and Deflection
02 CLRG
03 45
04 XROM 10,30 ;VS - Verify Size
05 FC?C 25
06 PROMPT
07 "MOM"
08 ASTO Y
09 CLA
10 "MOM/DEF?" ;Prompt for Either Moment or
11 TONE 89    ;Deflection with TONE 89.
12 AON
13 STOP
14 AOFF
15 ASTO 01
16 ASTO X
17 X=Y?
18 GTO 02
19 ">LECTIONS"
20 LBL 03      ;Print Moment or Deflection
21 PRA        ;Header Labeling X and Y Columns.
22 " X       Y"
23 PRA
24 "X MAX?"
25 TONE 89
26 PROMPT     ;Prompt for X Maximum.
27 STO 00
28 "X INC?"
29 TONE 89
30 PROMPT     ;Prompt for X Increment.
31 STO 02
32 ADV
33 LBL 01
34 FIX 1
35 CLA
36 RCL 43

```

```

37 ARCL X      ;Set X Value.
38 FIX 3
39 XEQ IND 01 ;Execute Function.
40 >"      "
41 ARCL X
42 PRA          ;Print X and Y Values.
43 RCL 00
44 RCL 02
45 -
46 RCL 43
47 X>Y?
48 GTO 04
49 RCL 02      ;Check Last X Value to X Maximum.
50 +
51 STO 43
52 GTO 01
53 LBL 04
54 XROM 20,51 ;PO - Paper Out
55 XROM 10,47 ;T1 - Beep Alternative
56 "TO PLOT R/S"
57 PROMPT      ;End of Value Listing.
58 XEQ "PLMD" ;Plot Moment and Deflection.
59 RTN
60 LBL 02
61 >"ENTS"
62 GTO 03
63 END

```

```

00A7C000F50050524D448A1415A29EAB198EF34D4F4D9A7287
F84D4F4D2F4445463F9F598C848B9A019A7378B300F97F4C45
4354494F4E5304A748FA20582020202020202059A748F65820
4D41583F9F598E30F65820494E433F9F598E328F029C018790
2B9B739C03AE81F67F20202020209B73A748202241902B45B5
002240912BB20005A533A2AFFB544F20504C4F5420522F538E
1EF4504C4D448503F57F454E5453B400C0000DBE

```

167 BYTES

HP-41C Moment/Deflection Example 1 by Chuck Dinsmore  
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```

78 LBL "MOM" ;Moment Function Example 1
79 STO 43
80 LBL 00
81 4.5
82 *
83 RCL 43
84 X^2
85 2
86 /
87 -
88 RCL 43
89 12
90 X>Y?
91 GTO 01
92 -
93 15
94 *
95 +
96 STO Z
97 LBL 01
98 RCL Z
99 RTN
100 LBL "DEF" ;Deflection Function Example 1
101 STO 43
102 LBL 00
103 3
104 Y^X
105 .75
106 *

```

```

107 RCL 43
108 4
109 Y^X
110 24
111 /
112 -
113 RCL 43
114 12
115 X>Y?
116 GTO 01
117 -
118 3
119 Y^X
120 2.5
121 *
122 +
123 STO Z
124 LBL 01
125 RCL Z
126 RCL 43
127 36
128 *
129 -
130 1 E2
131 /
132 END

```

```

005FC000F4004D4F4D912B01141A1542902B51124341902B11
1245B2004111154240917102907185C000F400444546912B01
13531A171542902B145312144341902B111245B20041135312
1A1542409171029071902B13164241111B1243C0000D1B

```

95 BYTES

HP-41C Moment/Deflection Example 2 by Chuck Dinsmore  
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```

78 LBL "MOM" ;Moment Function Example 2
79 STO 43
80 LBL 00
81 11.7
82 *
83 RCL 43
84 X^2
85 .5
86 *
87 2
88 /
89 -
90 RCL 43
91 10
92 X>Y?
93 GTO 01
94 -
95 20
96 *
97 -
98 STO Z
99 LBL 01
100 RCL Z
101 RCL 43
102 20
103 X>Y?
104 GTO 02
105 -
106 32.3
107 *
108 +
109 STO Z
110 LBL 02

```

```

111 RCL Z
112 RCL 43
113 25
114 X>Y?
115 GTO 03
116 -
117 10
118 *
119 -
120 STO Z
121 LBL 03
122 RCL Z
123 RTN
124 LBL "DEF" ;Deflection Function Example 2
125 STO 43
126 LBL 00
127 3
128 Y^X
129 1.95
130 *
131 RCL 43
132 4
133 Y^X
134 .0208
135 *
136 -
137 RCL 43
138 10
139 X>Y?
140 GTO 01
141 -
142 3
143 Y^X
144 3.3333
145 *
146 -
147 STO Z
148 LBL 01
149 RCL Z
150 RCL 43
151 20
152 X>Y?
153 GTO 02
154 -
155 3
156 Y^X
157 5.3833
158 *
159 +
160 STO Z
161 LBL 02
162 RCL Z
163 RCL 43
164 25
165 X>Y?
166 GTO 03
167 -
168 3
169 Y^X
170 1.6667
171 *
172 -
173 STO Z
174 LBL 03
175 RCL Z
176 RCL 43
177 446.935
178 *
179 -
180 1 E2

```

181 /  
182 END

00C1C000F4004D4F4D912B0111111A1742902B511A15421243  
41902B111045B20041121042419171029071902B121045B300  
4113121A1342409171039071902B121545B400411110424191  
7104907185C000F400444546912B011353111A191542902B14  
531A101210184241902B111045B200411353131A1313131342  
419171029071902B121045B300411353151A13181313424091  
71039071902B121545B400411353111A161616174241917104  
9071902B1414161A1913154241111B1243C0000DBB

193 BYTES

# HP-41C Plot Mom. & Def. by Chuck Dinsmore PPC V9 N4 P64 May-Jul 1982

Program Registers Needed: 29

Row 1 (1 - 4)



Row 2 (4 - 11)



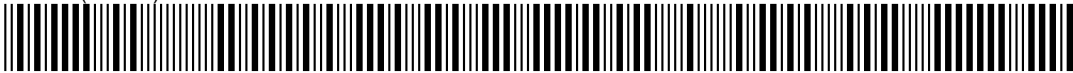
Row 3 (11 - 14)



Row 4 (15 - 19)



Row 5 (20 - 25)



Row 6 (26 - 31)



Row 7 (32 - 35)



Row 8 (36 - 42)



Row 9 (42 - 43)



Row 10 (44 - 48)



Row 11 (48 - 55)



Row 12 (55 - 63)



Row 13 (64 - 72)



Row 14 (72 - 78)



Row 15 (78 - 82)



Row 16 (83 - 85)



Program Registers Needed: 24

Row 1 (1 - 4)



Row 2 (5 - 10)



Row 3 (10 - 15)



Row 4 (16 - 19)



Row 5 (19 - 22)



Row 6 (22 - 25)



Row 7 (25 - 30)



Row 8 (31 - 39)



Row 9 (39 - 43)



Row 10 (44 - 52)



Row 11 (53 - 56)



Row 12 (56 - 60)



Row 13 (61 - 63)





# HP-41C Mom. & Def. #1 by Chuck Dinsmore PPC V9 N4 P63 May-Jul 1982

Program Registers Needed: 14

Row 1 (1 - 4)



Row 2 (5 - 14)



Row 3 (14 - 23)



Row 4 (23 - 28)



Row 5 (28 - 37)



Row 6 (37 - 46)



Row 7 (46 - 53)



Row 8 (54 - 55)



# HP-41C Mom. & Def. #2 by Chuck Dinsmore PPC V9 N4 P63 May-Jul 1982

Program Registers Needed: 28

Row 1 (1 - 4)



Row 2 (4 - 13)



Row 3 (14 - 22)



Row 4 (23 - 29)



Row 5 (29 - 37)



Row 6 (38 - 46)



Row 7 (47 - 52)



Row 8 (52 - 57)



Row 9 (58 - 67)



Row 10 (67 - 73)



Row 11 (73 - 80)



Row 12 (80 - 87)



Row 13 (88 - 94)



Row 14 (95 - 100)



Row 15 (100 - 105)

