

HP-41C Nth Order Polynomial Fit by Unknown Author  
PPC Calculator Journal V8 No 6 Pg 61 Aug-Dec 1981  
Requires HP-41 Math Module for matrix PVT routine

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01 LBL "POLFIT" ;Nth Order Polynomial Fitting
02 CF 29
03 FIX 00
04 "POLY ORDER?"
05 PROMPT
06 STO 00
07 1
08 +
09 X^2
10 LASTX
11 2
12 *
13 +
14 14
15 +
16 SF 25
17 STO IND X
18 FS?C 25
19 GTO 00
20 1
21 +
22 "SET SIZE "
23 ARCL X
24 PROMPT
25 LBL 00
26 RCL 00
27 CLRG
28 STO 00
29 "NO. OF PAIRS?"
30 PROMPT
31 STO 15
32 1
33 -
34 X<>Y
35 X<=Y?
36 GTO 01
37 "INSUFF. DATA"
38 AVIEW
39 PSE
40 GTO "POLFIT" ;Nth Order Polynomial Fitting (Line 1)
41 LBL 01
42 RCL 15
43 1 E-3
44 *
45 STO 03
46 LBL "DAT" ;Enter Data Point
47 ISG 03
48 GTO 02
49 GTO "SOL" ;Solve Nth Order Polynomial (Line 171)
50 LBL 02
51 TONE 05
52 "a"
53 ARCL 03
54 ">=?"
55 PROMPT
56 X=0?
57 1 E-99
58 STO 01
59 "y"
60 ARCL 03
61 ">=?"
62 PROMPT
63 STO 02
64 RCL 00
65 1 E-3
66 *
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67 1
68 +
69 STO 05
70 RCL 00
71 1
72 +
73 STO 07
74 RCL 00
75 2 E-3
76 *
77 +
78 STO 06
79 LBL 03
80 RCL 05
81 INT
82 1 E-3
83 *
84 STO 04
85 LBL "LP1"      ;Loop 1
86 15
87 RCL 05
88 INT
89 +
90 RCL 04
91 INT
92 RCL 00
93 *
94 +
95 RCL 01
96 RCL 05
97 INT
98 Y^X
99 ST+ IND Y
100 ISG 04
101 GTO "LP1"      ;Loop 1 (Line 85)
102 ISG 05
103 GTO 03
104 LBL 04
105 RCL 00
106 2
107 *
108 STO 09
109 1
110 +
111 RCL 06
112 INT
113 -
114 1 E-3
115 *
116 STO 08
117 LBL "LP2"      ;Loop 2
118 16
119 RCL 09
120 +
121 RCL 06
122 INT
123 RCL 07
124 *
125 +
126 RCL 07
127 X^2
128 -
129 RCL 08
130 RCL 00
131 *
132 +
133 RCL 01
134 RCL 06
135 INT
136 Y^X

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137 ST+ IND Y
138 ISG 08
139 GTO "LP2"      ;Loop 2 (Line 117)
140 ISG 06
141 GTO 04
142 LBL 05
143 RCL 00
144 1 E-3
145 *
146 STO 10
147 LBL "COL"      ;Final Loop
148 RCL 07
149 X^2
150 RCL 07
151 +
152 15
153 +
154 RCL 10
155 INT
156 +
157 RCL 01
158 RCL 10
159 INT
160 Y^X
161 RCL 02
162 *
163 ST+ IND Y
164 RCL IND Y
165 ISG 10
166 GTO "COL"      ;Final Loop (Line 147)
167 GTO "DAT"      ;Enter Data Point (Line 46)
168 LBL "SOL"      ;Solve Nth Order Polynomial
169 RCL 07
170 STO 14
171 FIX 04
172 SF 04
173 SF 05
174 CF 06
175 CF 07
176 CF 08
177 CF 09
178 CF 10
179 SF 21
180 SF 29
181 XROM 01,05     ;PVT - Math Pac Pivot (part of Matrix Operations)
182 CF 21
183 LBL 06
184 RCL 14
185 X^2
186 LASTX
187 +
188 15
189 +
190 RCL 14
191 X^2
192 LASTX
193 2
194 *
195 +
196 14
197 +
198 1 E-3
199 *
200 +
201 STO 00
202 "a=?"
203 PROMPT
204 X=0?
205 1 E-99
206 STO 01

```

```

207 0
208 STO 02
209 STO 03
210 LBL 07
211 RCL 01
212 RCL 03
213 INT
214 Y^X
215 RCL IND 00
216 *
217 ST+ 02
218 1
219 ST+ 03
220 ISG 00
221 GTO 07
222 "Y="
223 ARCL 02
224 PROMPT
225 GTO 06
226 END

```

```

01AEC000F700504F4C464954A91D9C00FB504F4C59204F5244
45523F8E3011405176124240111440A81991F3AA19B1001140
F95345542053495A45209B738E01208A30FD4E4F2E204F4620
50414952533F8E3F11417146B200FC494E535546462E204441
54417E891DF6504F4C464954022F111B1C134233C000F40044
41549603B3001DF3534F4C039F05F1619B03F37F3D3F8E6711
1B1C191931F1599B03F37F3D3F8E3220111B1C134211403520
11403720121B1C13424036042568111B1C134234C000F4004C
5031111525684024682042402125685392F296041DF34C5031
9605B40005201242391140266841111B1C134238C000F4004C
5032111629402668274240275141282042402126685392F296
081DF34C50329606B5000620111B1C13423AC000F400434F4C
275127401115402A6840212A6853224292F290F2960A1DF343
4F4C1DF3444154C000F400534F4C273E9C04A804A805A906A9
07A908A909A90AA815A81DA045A915072E5176401115402E51
76124240111440111B1C13424030F3613D3F8E67111B1C1919
31103233082123685390804292021192039600B800F2593D9B
028EB700C0000DE2

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430 BYTES

## HP-41C Polynomial Fitting by Unknown Author PPC V8 N6 P61 Aug-Dec 1981

Program Registers Needed: 62

Row 1 (1 - 3)



Row 2 (3 - 4)



Row 3 (5 - 16)



Row 4 (16 - 22)



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Row 5 (22 - 28)



Row 6 ( 29 )



Row 7 (29 - 37)



Row 8 (37 - 40)



Row 9 (40 - 44)



Row 10 (45 - 49)



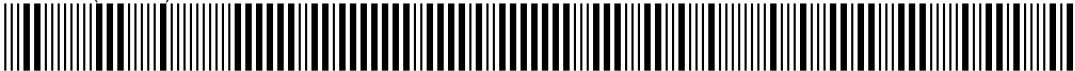
Row 11 (49 - 54)



Row 12 (54 - 60)



Row 13 (60 - 66)



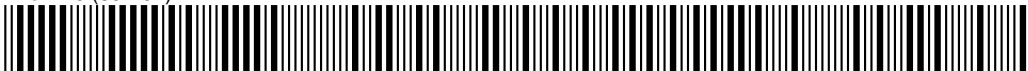
Row 14 (67 - 76)



Row 15 (77 - 85)



Row 16 (85 - 92)



Row 17 (93 - 101)



Row 18 (101 - 110)



Row 19 (111 - 117)



Row 20 (117 - 126)



Row 21 (127 - 138)



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Row 22 (138 - 144)



Row 23 (144 - 148)



Row 24 (149 - 160)



Row 25 (161 - 166)



Row 26 (167 - 169)



Row 27 (170 - 176)



Row 28 (177 - 183)



Row 29 (184 - 195)



Row 30 (196 - 202)



Row 31 (202 - 210)



Row 32 (211 - 220)



Row 33 (220 - 226)



Row 34 ( 226 )

