

HP-41C Curve Fit Program by Gary M. Tenzer
PPC Calculator Journal V7 N5 P46 June 1980

```
01 LBL "CFIT" ;Curve Fit Program
02 SF 25
03 RCL 23
04 " SIZE=24"
05 FC?C 25
06 PROMPT
07 SF 12
08 " -AUTO-"
09 AVIEW
10 "-CURVE FIT-"
11 AVIEW
12 SF 13
13 "1=LIN 2=EXP" ;Linear, Exponential
14 AVIEW
15 "3=LOG 4=PWR" ;Logarithmic, Power
16 AVIEW
17 ADV
18 CF 13
19 CF 12
20 CF 05
21 CF 06
22 CF 09
23 CLRG
24 1
25 STO 19
26 XEQ e
27 GTO 07
28 LBL e
29 2
30 " DIGITS ?"
31 PROMPT
32 STO 22
33 FIX IND 22
34 RTN
35 LBL A
36 CF 10
37 LBL 06
38 STO 01
39 X<=0?
40 XEQ 10
41 X<>Y
42 STO 02
43 X<=0?
44 XEQ 11
45 "X"
46 XEQ 13
47 X<>Y
48 "Y"
49 XEQ 13
50 ADV
51 X<>Y
52 SREG 14 ;SigmaREG
53 FC? 10
54 S+ ;Sigma+
55 FS? 10
56 S- ;Sigma-
57 RDN
58 RCL 02
59 FC? 06
60 LN
61 *
62 FS? 10
63 CHS
64 ST+ 03
65 LASTX
66 RCL 01
67 FC? 05
```

```
68 LN
69 X<>Y
70 SREG 04 ;sigmaREG
71 FC? 10
72 S+      ;Sigma+
73 FS? 10
74 S-      ;Sigma-
75 RDN
76 RCL 02
77 *
78 FS? 10
79 CHS
80 ST+ 13
81 LBL 07
82 FIX 0
83 CF 29
84 CLA
85 RCL 19
86 ARCL X
87 >": X ENTER Y"
88 SF 29
89 TONE 09
90 FIX IND 22
91 PROMPT
92 RCL 02
93 RCL 01
94 LBL a
95 SF 10
96 SF 12
97 " *DELETE*"
98 AVIEW
99 CF 12
100 GTO 06
101 LBL 10
102 FS? 05
103 RTN
104 SF 05
105 "Y"
106 ASTO 23
107 GTO 09
108 LBL 11
109 FS? 06
110 RTN
111 SF 06
112 "X"
113 ASTO 23
114 LBL 09
115 SF 12
116 " NEGATIVE "
117 ARCL 23
118 AVIEW
119 CF 12
120 BEEP
121 RTN
122 LBL 13
123 CF 29
124 FIX 0
125 FC? 10
126 ARCL 19
127 SF 29
128 FIX IND 22
129 >" = "
130 ARCL X
131 AVIEW
132 FC? 21
133 PSE
134 RTN
135 LBL E
136 ADV
137 RCL 21
```

```
138 INT
139 " CURVE: "
140 FIX 0
141 CF 29
142 ARCL X
143 SF 29
144 FIX IND 22
145 SF 12
146 AVIEW
147 FC? 21
148 PSE
149 "LINEAR FIT"
150 2
151 X=Y?
152 "EXPONENTIAL"
153 RDN
154 3
155 X=Y?
156 "LOGARITHMIC"
157 RDN
158 4
159 X=Y?
160 "POWER CURVE"
161 RCL 10
162 FS? 07
163 E^X
164 RCL 11
165 RCL 00
166 AVIEW
167 FC? 21
168 PSE
169 CF 12
170 SF 13
171 ADV
172 " A = "
173 ARCL Z
174 AVIEW
175 FC? 21
176 PSE
177 " B = "
178 ARCL Y
179 AVIEW
180 FC? 21
181 PSE
182 " R^2 = "
183 ARCL X
184 AVIEW
185 FC? 21
186 PSE
187 RCL 11
188 SIGN
189 RCL 00
190 SQRT
191 *
192 " R = "
193 ARCL X
194 AVIEW
195 CF 13
196 ADV
197 ADV
198 RTN
199 LBL c
200 SF 09
201 LBL B
202 1.004
203 STO 21
204 LBL 00
205 XEQ IND 21
206 ISG 21
207 GTO 00
```

208 FS? 09
209 RTN
210 RCL 20
211 LBL C
212 STO 21
213 SF 09
214 XEQ IND 21
215 CF 09
216 RTN
217 LBL 01
218 CF 07
219 CF 08
220 RCL 17
221 STO 00
222 RCL 15
223 RCL 18
224 RCL 14
225 RCL 16
226 GTO 08
227 LBL 02
228 FS? 05
229 GTO 05
230 SF 07
231 CF 08
232 RCL 07
233 STO 00
234 RCL 15
235 RCL 13
236 RCL 14
237 RCL 06
238 GTO 08
239 LBL 03
240 FC? 05
241 FS? 06
242 GTO 05
243 CF 07
244 SF 08
245 RCL 17
246 STO 00
247 RCL 05
248 RCL 03
249 RCL 04
250 RCL 16
251 GTO 08
252 LBL 04
253 FC? 05
254 FS? 06
255 GTO 05
256 SF 07
257 SF 08
258 RCL 07
259 STO 00
260 RCL 05
261 RCL 08
262 RCL 04
263 RCL 06
264 LBL 08
265 STO 01
266 X<>Y
267 STO 02
268 *
269 RCL 09
270 /
271 -
272 X<>Y
273 RCL 02
274 X^2
275 RCL 09
276 /
277 -

```

278 /
279 STO 11
280 ST* 02
281 *
282 RCL 00
283 RCL 01
284 X^2
285 RCL 09
286 /
287 -
288 /
289 STO 00
290 FS?C 22
291 STO 12
292 RCL 12
293 X>Y?
294 GTO 09
295 X<>Y
296 STO 12
297 RCL 21
298 STO 20
299 LBL 09
300 RCL 01
301 RCL 02
302 -
303 RCL 09
304 /
305 STO 10
306 FS? 09
307 GTO E
308 RTN
309 LBL 05
310 FC? 09
311 RTN
312 "CURVE "
313 CF 29
314 FIX 0
315 ARCL 21
316 SF 29
317 FIX IND 22
318 >" VOID"
319 SF 12
320 AVIEW
321 BEEP
322 CF 12
323 RTN
324 LBL D
325 ADV
326 "X= "
327 FS? 21
328 XEQ 12
329 FS? 08
330 LN
331 RCL 11
332 *
333 RCL 10
334 +
335 FS? 07
336 E^X
337 " Y= "
338 LBL 14
339 ARCL X
340 FC? 21
341 PROMPT
342 XROM 29,01 ;ACA
343 XROM 29,10 ;PRBUF
344 PROMPT
345 LBL 12
346 ARCL X
347 >" " ;Append 1 space

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348 XROM 29,01 ;ACA
349 125
350 SF 12
351 XROM 29,02 ;ACCHR
352 RDN
353 CF 12
354 RTN
355 LBL d
356 ADV
357 "Y= "
358 FS? 21
359 XEQ 12
360 FS? 07
361 LN
362 RCL 10
363 -
364 RCL 11
365 /
366 FS? 08
367 E^X
368 " X= "
369 GTO 14
370 LBL b
371 .022
372 XROM 30,08 ;WDTAX
373 END

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```

0300C600F50043464954A8199017F9202053495A453D3234AB
198EA80CF820202D4155544F2D7EFB2D435552564520464954
2D7EA80DFC313D4C494E2020323D4558507EFC333D4C4F4720
20343D5057527E8FA90DA90CA905A906A9098A119113E0007F
B800CF7F12FA2020444947495453203F8E91169C9685CF66A9
0A07317BE0000A71327BE0000BF158E0000D71F159E0000D8F
71990EAD0A47AC0A487522AD065042AC0A5492037621AD0550
719904AD0A47AC0A48752242AC0A54920D089C00A91D879013
9B73FC7F3A205820454E5445522059A81D9F099C968E2221CF
7BA80AA80CFA20202A44454C4554452A7EA90CB7000BAC0585
A805F1599A17BA000CAC0685A806F1589A170AA80CFA204E45
474154495645209B177EA90C86850EA91D9C00AD0A9B13A81D
9C96F47F203D209B737EAD158985CF6A8F901568F820435552
56453A209C00A91D9B73A81D9C96A80C7EAD1589FA4C494E45
4152204649541278FB4558504F4E454E5449414C751378FB4C
4F4741524954484D4943751478FB504F574552204355525645
2AAC07552B207EAD1589A90CA80D8FF720412020203D209B71
7EAD1589F720422020203D209B727EAD1589F720525E32203D
209B737EAD15892B7A205242F720522020203D209B737EA90D
8F8F85CF7DA809CF67111A101014911501AE959615B100AC09
859014CF689115A809AE95A9098502A907A9089011302F9012
2E9010B90003AC05B600A807A90827302F2D2E26B90004AD05
AC06B600A907A8089011302523249010B90005AD05AC06B600
A807A808273025282426093171324229434171225129434143
3B9402422021512943414330AA163C2C45BA00713C90159114
0A21224129433AAC09D0006A8506AD0985F6435552564520A9
1D9C009B15A81D9C96F67F20564F4944A80C7E86A90C85CF69
8FF3583D20AC15E0000CAC08502B422A40AC0755F420593D20
0F9B73AD158EA741A74A8E0D9B73F27F20A741111215A80CA7
4275A90C85CF7E8FF3593D20AC15E0000CAC07502A412B43AC
0855F420583D20BF00CF7C1A101212A788C46D0931

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768 BYTES

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Program Registers Needed: 110

Row 1 (1 - 4)



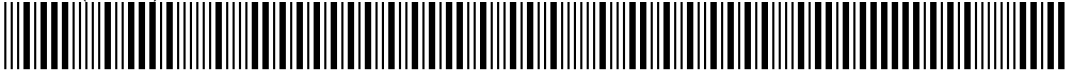
Row 2 (4 - 7)



Row 3 (7 - 10)



Row 4 (10 - 12)



Row 5 (13)



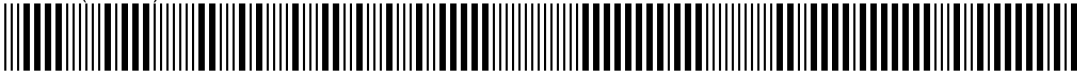
Row 6 (14 - 15)



Row 7 (15 - 22)



Row 8 (23 - 30)



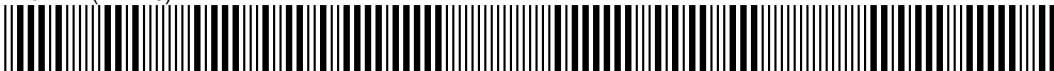
Row 9 (30 - 32)



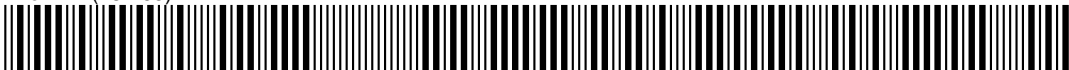
Row 10 (33 - 40)



Row 11 (41 - 48)



Row 12 (48 - 55)



Row 13 (56 - 65)



Row 14 (66 - 74)



Row 15 (75 - 83)



Row 16 (84 - 87)



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Row 17 (87 - 92)



Row 18 (93 - 97)



Row 19 (97 - 102)



Row 20 (103 - 110)



Row 21 (111 - 116)



Row 22 (116 - 120)



Row 23 (121 - 128)



Row 24 (128 - 134)



Row 25 (135 - 139)



Row 26 (139 - 145)



Row 27 (145 - 149)



Row 28 (149 - 152)



Row 29 (152 - 156)



Row 30 (156 - 160)



Row 31 (160 - 164)



Row 32 (165 - 172)



Row 33 (172 - 177)



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Row 34 (177 - 182)



Row 35 (182 - 186)



Row 36 (187 - 192)



Row 37 (193 - 201)



Row 38 (201 - 206)



Row 39 (207 - 213)



Row 40 (214 - 221)



Row 41 (222 - 229)



Row 42 (230 - 239)



Row 43 (240 - 246)



Row 44 (247 - 255)



Row 45 (255 - 265)



Row 46 (266 - 278)



Row 47 (279 - 290)



Row 48 (290 - 299)



Row 49 (300 - 309)



Row 50 (310 - 314)



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Row 51 (314 - 318)



Row 52 (318 - 326)



Row 53 (326 - 333)



Row 54 (334 - 340)



Row 55 (340 - 347)



Row 56 (348 - 354)



Row 57 (355 - 360)



Row 58 (360 - 368)



Row 59 (368 - 373)



Row 60 (373)

