

HP-41C Critical Path Planning by James F. Kaminski
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01 LBL "CPM" ;Critical Path Project Planning
02 LBL B ;Initialize the program
03 FIX 0 ;Uses PPC ROM, Card Reader, Printer
04 CF 29 ;Clear digit grouping flag
05 "NO. ?"
06 PROMPT ;Enter number of activities
07 STO 09
08 LBL 15
09 RCL 09
10 2
11 STO 08
12 *
13 LASTX
14 -
15 11
16 STO 07
17 STO 05
18 +
19 STO 04
20 E3
21 STO 03
22 /
23 ST+ 05
24 E-5
25 RCL 08
26 *
27 ST+ 05
28 ST+ 04
29 RCL 05
30 STO 00
31 INT
32 RCL 03
33 /
34 ST+ 04
35 FS?C 29
36 RTN
37 E
38 LBL E ;Edit the Nth activity
39 RCL 09
40 X<>Y
41 X>Y?
42 SF 99
43 STO 01
44 RCL 08
45 *
46 9
47 +
48 RCL 05
49 FRC
50 +
51 STO 00
52 RCL 04
53 3
54 +
55 XROM 10,30 ;VS - PPC ROM Verify Size
56 FC?C 25
57 PROMPT
58 LBL 00
59 "FM^TO^DUR : "
60 ARCL 01
61 PROMPT ;From/To/Duration
62 RCL 03
63 /
64 +
65 RCL 03
66 /
67 +
```

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68 STO IND 00
69 E
70 ST+ 01
71 ISG 00
72 GTO 00
73 "R/S TO RUN"
74 PROMPT      ;Press R/S to run
75 LBL C       ;Calculate scheduling data
76 "SORT"
77 CF 21
78 AVIEW       ;Sort
79 RCL 05
80 XROM 20,48 ;S2 - PPC ROM Small Array Sort (<=32)
81 RCL 05
82 1.001
83 +
84 XROM 20,43 ;BC - PPC ROM Block Clear
85 "FWD"
86 AVIEW       ;Forward
87 RCL 05
88 STO 00
89 LBL 01
90 RCL 00
91 E
92 +
93 RCL IND 00
94 INT
95 E
96 X=Y?
97 STO IND Z
98 ISG 00
99 GTO 01
100 CLX
101 STO 06
102 RCL 05
103 STO 00
104 LBL 02
105 RCL 00
106 E
107 +
108 STO 01
109 E
110 +
111 STO 02
112 RCL IND 00
113 RCL 03
114 *
115 FRC
116 RCL 03
117 *
118 ST+ IND 01
119 RCL IND 01
120 RCL 06
121 X<Y?
122 RDN
123 STO 06
124 RCL 00
125 FRC
126 RCL 03
127 *
128 INT
129 RCL 00
130 X>Y?
131 GTO 05
132 LBL 03
133 RCL IND 02
134 INT
135 RCL IND 00
136 FRC
137 RCL 03

```

```
138 *
139 INT
140 X#Y?
141 GTO 04
142 RCL 02
143 E
144 +
145 RCL IND X
146 RCL IND 01
147 X>Y?
148 STO IND Z
149 LBL 04
150 ISG 02
151 GTO 03
152 ISG 00
153 GTO 02
154 LBL 05
155 "BKWD"
156 AVIEW ;Backward
157 RCL 05
158 STO 00
159 RCL 06
160 RCL 03
161 /
162 LBL 06
163 RCL 00
164 E
165 +
166 X<>Y
167 ST+ IND Y
168 ISG 00
169 GTO 06
170 RCL 04
171 STO 01
172 LBL 07
173 RCL 01
174 INT
175 LASTX
176 RCL 03
177 *
178 FRC
179 +
180 RCL 03
181 /
182 RCL 05
183 INT
184 +
185 STO 02
186 LBL 08
187 RCL IND 02
188 FRC
189 RCL 03
190 *
191 INT
192 RCL IND 01
193 INT
194 X#Y?
195 GTO 09
196 RCL 02
197 E
198 +
199 STO 06
200 RCL IND 06
201 FRC
202 RCL 01
203 E
204 +
205 RDN
206 RCL IND T
207 FRC
```

```

208 RCL IND 01
209 RCL 03
210 *
211 FRC
212 -
213 X>Y?
214 RDN
215 RCL IND 06
216 INT
217 +
218 STO IND 06
219 LBL 09
220 ISG 02
221 GTO 08
222 DSE 01
223 GTO 07
224 "FLOAT"
225 AVIEW      ;Float
226 RCL 05
227 STO 00
228 RCL 04
229 E
230 +
231 RCL IND X
232 FRC
233 RCL 03
234 *
235 STO 06
236 E
237 -
238 STO 10
239 LBL 10
240 RCL 00
241 STO 01
242 E
243 +
244 STO 02
245 RCL IND 04
246 FRC
247 RCL 03
248 *
249 INT
250 RCL IND 00
251 FRC
252 RCL 03
253 *
254 INT
255 X#Y?
256 GTO 11
257 RCL 06
258 GTO 13
259 LBL 11
260 RCL IND 01
261 INT
262 RCL IND 00
263 FRC
264 RCL 03
265 *
266 INT
267 X=Y?
268 GTO 12
269 ISG 01
270 GTO 11
271 RCL 06
272 GTO 13
273 LBL 12
274 RCL 01
275 E
276 +
277 RCL IND X

```

```

278 INT
279 RCL IND 01
280 RCL 03
281 *
282 FRC
283 RCL 03
284 *
285 INT
286 -
287 LBL 13
288 RCL IND 02
289 INT
290 -
291 RCL 03
292 X^2
293 /
294 ST+ IND 02
295 ISG 00
296 GTO 10
297 RCL 05
298 STO 00
299 LBL 14
300 RCL 00
301 E
302 +
303 RCL IND 00
304 RCL 03
305 *
306 FRC
307 ST- IND Y
308 RCL 03
309 *
310 ST- IND Y
311 ISG 00
312 GTO 14
313 BEEP      ;Beep when finished
314 SF 11     ;Set auto execute flag
315 OFF       ;Turn off calculator
316 LBL D     ;Print results
317 CLX
318 STO 01
319 RCL 05
320 STO 00
321 SF 12
322 ADV
323 "CPM"
324 AVIEW      ;CPM
325 CF 12
326 ADV
327 "PROJECT LENGTH"
328 XROM 29,08 ;PRA
329 "IS "
330 ARCL 10
331 ">" DAYS"
332 XROM 29,08 ;PRA
333 ADV
334 "      FM TO DR"
335 ">" ES LS FF"
336 XROM 29,08 ;PRA
337 CLA
338 LBL 16
339 E
340 ST+ 01
341 STO 06
342 RCL 00
343 +
344 STO 02
345 9
346 RCL 01
347 X<=Y?

```

```

348 " " ;1 space
349 ARCL X
350 >"-" ;Append 1 dash
351 XROM 29,01 ;ACA
352 RCL IND 00
353 INT
354 XROM 20,27 ;CP - PPC ROM Column Printing Format
355 RCL IND 00
356 FRC
357 RCL 03
358 *
359 INT
360 XROM 20,27 ;CP - PPC ROM Column Printing Format
361 RCL IND 00
362 RCL 03
363 *
364 FRC
365 RCL 03
366 *
367 INT
368 XROM 20,27 ;CP - PPC ROM Column Printing Format
369 2
370 STO 06
371 RCL IND 02
372 INT
373 STO M
374 XROM 20,27 ;CP - PPC ROM Column Printing Format
375 RCL M
376 " CP" ;2 spaces, CP
377 RCL IND 02
378 FRC
379 RCL 03
380 *
381 INT
382 X=Y?
383 SF 00
384 XROM 20,27 ;CP - PPC ROM Column Printing Format
385 FS? 00
386 XROM 29,01 ;ACA
387 FS?C 00
388 GTO 17
389 RCL IND 02
390 RCL 03
391 *
392 FRC
393 RCL 03
394 *
395 INT
396 XROM 20,27 ;CP - PPC ROM Column Printing Format
397 LBL 17
398 ADV
399 CLA
400 ISG 00
401 GTO 16
402 XROM 20,51 ;PO - PPC ROM Paper Out
403 RTN
404 LBL A ;Add an activity and continue
405 E
406 ST+ 09
407 SF 29
408 XEQ 15
409 RCL 09
410 GTO E ;Edit an activity (line 38)
411 LBL d ;Delete the Nth activity
412 "ACT. "
413 ARCL X
414 >" GONE"
415 RCL 09
416 X<>Y
417 X>Y?

```

```

418 SF 99
419 XROM 20,38 ;DR - PPC ROM Delete Record
420 SF 29
421 XEQ 15
422 PROMPT
423 LBL c      ;Copy data to magnetic cards
424 RCL 09
425 RCL 08
426 *
427 E1
428 +
429 RCL 03
430 /
431 9
432 +
433 XROM 30,08 ;WDTA
434 XROM 30,05 ;VER
435 LBL e      ;Read data from magnetic cards
436 XROM 30,02 ;RDTA
437 9
438 RCL X
439 RCL 00
440 E
441 +
442 2
443 *
444 +
445 XROM 10,30 ;VS - PPC ROM Verify Size
446 FC?C 25
447 PROMPT
448 ST- Y
449 ST- L
450 RCL L
451 XROM 20,39 ;BM - PPC ROM Block Move
452 SF 29
453 XEQ 15
454 " OK"      ;1 space, OK
455 PROMPT
456 END        ;730 BYTES

```

```

02DAC000F40043504DCF679C00A91DF54E4F2E203F8E39CF0F
2912384276411111373540341B13334392051B1C1528429205
920425306823439204AA1D851BCF6A297145A8633128421940
25694030241340A29EAB198E01FB464D5E544F5E445552203A
9B018E23434023434091801B92019600B100FA522F5320544F
2052554E8ECF68F4534F5254A9157E25A53025111A10101140
A52BF34657447E253002201B409080681B7891F19600B20077
36253003201B40311B40329080234269234292819081264475
3620692342682045B6000490826890806923426879B500221B
4090F390814591F1059602B4009600B30006F4424B57447E25
3026234307201B407192F29600B70024310821687623426940
2343256840320990826923426890816879BA00221B40369086
69211B407590F06990812342694145759086684091860A9602
B9009701B800F5464C4F41547E2530241B4090F3692342361B
413A0B20311B403290846923426890806923426879BC0026BE
000C90816890806923426878BD009601BC0026BE000D211B40
90F3689081234269234268410E9082684123514392829600BB
0025300F201B40908023426993F2234293F29600BF0086A80B
8DCF6977312530A80C8FF343504D7EA90C8FFE50524F4A4543
54204C454E475448A748F34953209B0AF67F2044415953A748
8FFFC202020464D20544F204452FD7F2020455320204C5320
204646A74887CF101B920136204032192146F1209B73F27F2D
A741908068A51B908069234268A51B9080234269234268A51B
12369082689175A51B9075F42020435090826923426878A800
A51BAC00A741AA00D000119082234269234268A51BCF118F87
9600D00010A53385CF661B9209A81DE0000F29D0006ACF7EF5
4143542E209B73F67F20474F4E45297145A863A526A81DE000
0F8ECF7D2928421B114023431940A788A785CF7FA782199073
201B40124240A29EAB198E937293749074A527A81DE0000FF3
204F4B8EC0000DBC

```

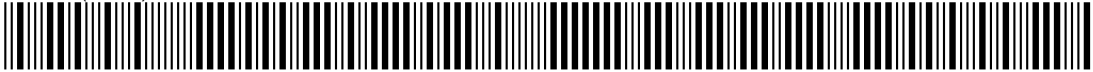
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Program Registers Needed: 105

Row 1 (1 - 4)



Row 2 (5 - 11)



Row 3 (12 - 22)



Row 4 (23 - 30)



Row 5 (31 - 40)



Row 6 (41 - 52)



Row 7 (53 - 59)



Row 8 (59 - 64)



Row 9 (65 - 73)



Row 10 (73 - 75)



Row 11 (76 - 82)



Row 12 (82 - 87)



Row 13 (88 - 98)



Row 14 (98 - 109)



Row 15 (110 - 119)



Row 16 (120 - 131)



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Row 17 (132 - 141)



Row 18 (142 - 150)



Row 19 (151 - 156)



Row 20 (157 - 168)



Row 21 (168 - 179)



Row 22 (180 - 191)



Row 23 (192 - 201)



Row 24 (202 - 212)



Row 25 (213 - 221)



Row 26 (222 - 227)



Row 27 (228 - 239)



Row 28 (240 - 250)



Row 29 (251 - 260)



Row 30 (261 - 270)



Row 31 (270 - 279)



Row 32 (280 - 291)



Row 33 (292 - 301)



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Row 34 (302 - 311)



Row 35 (311 - 320)



Row 36 (321 - 327)



Row 37 (327)



Row 38 (328 - 331)



Row 39 (331 - 334)



Row 40 (334 - 335)



Row 41 (335 - 340)



Row 42 (340 - 350)



Row 43 (350 - 357)



Row 44 (358 - 368)



Row 45 (368 - 376)



Row 46 (376 - 383)



Row 47 (384 - 389)



Row 48 (390 - 400)



Row 49 (400 - 407)

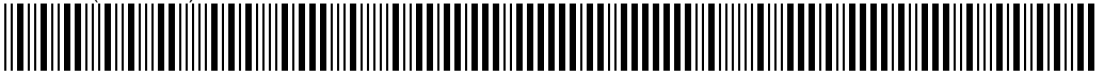


Row 50 (407 - 412)



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Row 51 (412 - 415)



Row 52 (416 - 423)



Row 53 (423 - 433)



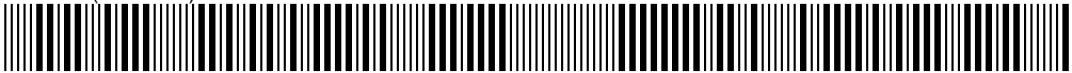
Row 54 (434 - 442)



Row 55 (443 - 450)



Row 56 (451 - 456)



Row 57 (456)

