

HP-41C Public Key PKEY Program by Read Predmore
PPC Calculator Journal V9 N4 Pg 84 May-Jul 1982
Requires PPC ROM for AD, NP, QR, & RN functions

```
01 LBL "PKEY" ;Public Key Program
02 "READ "
03 >"PREDMORE"
04 >" PKEY"
05 >" 27.4.82"
06 PROMPT
07 LBL b      ;Find Inverse t from p-1 and q-1
08 RCL 01
09 1
10 -
11 RCL 02
12 1
13 -
14 *
15 RCL 04
16 XEQ "INV"  ;Inverse Key (Line 19)
17 STO 06
18 RTN
19 LBL "INV"  ;Inverse Key
20 LBL B
21 FIX 0
22 X<=Y?
23 X<>Y
24 STO 05
25 X<>Y
26 STO 04
27 XEQ "GCD"  ;Greatest Common Divisor (Line 119)
28 1
29 X<Y?
30 GTO 13
31 RCL 05
32 RCL 04
33 XROM 10,54 ;QR - PPC ROM Quotient Remainder
34 STO 10
35 X<>Y
36 CHS
37 STO 08
38 1
39 STO 06
40 RCL 04
41 R^
42 XROM 10,54 ;QR - PPC ROM Quotient Remainder
43 STO 11
44 X<>Y
45 STO 12
46 CHS
47 STO 07
48 RCL 08
49 *
50 1
51 +
52 STO 09
53 LBL 02
54 1
55 RCL 11
56 X=Y?
57 GTO 12
58 X<> 10
59 RCL 11
60 XROM 10,54 ;QR - PPC ROM Quotient Remainder
61 STO 11
62 X<>Y
63 STO 12
64 RCL 06
65 RCL 07
66 STO 06
```

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67 RCL 12
68 *
69 -
70 STO 07
71 RCL 08
72 RCL 09
73 STO 08
74 RCL 12
75 *
76 -
77 STO 09
78 GTO 02
79 LBL 12
80 RCL 09
81 RCL 05
82 MOD
83 STO 06
84 TONE 9
85 RTN
86 LBL 13
87 "GCD= "
88 ARCL Y
89 PROMPT
90 LBL E      ;Select Random Primes
91 LBL "PRM"
92 STO 00
93 RCL 13
94 ABS
95 FRC
96 STO 13
97 13
98 XROM 20,16 ;RN - PPC ROM Random Number Generator
99 RCL 00
100 *
101 INT
102 ENTER
103 ENTER
104 2
105 MOD
106 1
107 +
108 +
109 2
110 LBL 01
111 XROM 20,14 ;NP - PPC ROM Next Prime
112 X=Y?
113 RTN
114 CLX
115 2
116 ST+ Y
117 GTO 01
118 LBL d      ;Greatest Common Divisor
119 LBL "GCD"
120 X>Y?
121 X<>Y
122 LBL 04
123 STO Z
124 MOD
125 X#0?
126 GTO 04
127 X<>Y
128 RTN
129 LBL e      ;View Factors of a Number
130 LBL "FACTORS"
131 2
132 CLA
133 FIX 0
134 CF 29
135 LBL 15
136 XROM 20,14 ;NP - PPC ROM Next Prime

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```

137 1
138 X=Y?
139 GTO 16
140 RDN
141 ST/ Y
142 ARCL X
143 >"*" ;Append 1 asterisk
144 GTO 15
145 LBL 16
146 XROM 10,18 ;AD - PPC ROM Alpha Delete Last Character
147 SF 29
148 FIX 9
149 PROMPT
150 END

```

```

010BC000F500504B4559F55245414420F97F505245444D4F52
45F67F20504B4559F97F2032372E342E38328ECF7C21114122
114142241EF3494E563685C000F400494E56CF679C00467135
71341EF34743441144BE002524A2B63A71543811362474A2B6
3B713C5437284211403903112B78BD00CE0A2BA2B63B713C26
27362C4241372829382C424139B3000D29254B369F09850EF5
4743443D209B728ECF6AC000F40050524D302D61693D1113A5
102042688383124B1140401202A50E788577129272B200CF7E
C000F40047434445710591714B63B5007185CF7FC000F80046
4143544F525312879C00A91DCF0FA50E1178D000107595729B
73F27F2AD0000FCF10A292A81D9C098EC0000DD3

```

267 BYTES

HP-41C Public Key PKEY by Read Predmore PPC V9 N4 P84 May-Jul 1982

Program Registers Needed: 39

Row 1 (1 - 2)



Row 2 (2 - 4)



Row 3 (4 - 5)



Row 4 (5 - 15)



Row 5 (16 - 19)



Row 6 (19 - 27)



Row 7 (27 - 36)



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Row 8 (37 - 48)



Row 9 (49 - 59)



Row 10 (60 - 71)



Row 11 (72 - 83)



Row 12 (84 - 89)



Row 13 (90 - 95)



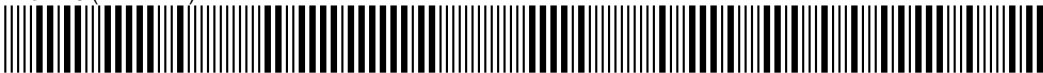
Row 14 (96 - 106)



Row 15 (107 - 117)



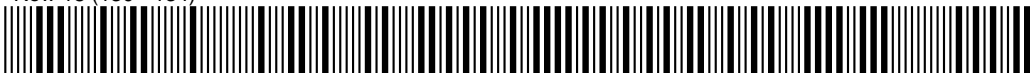
Row 16 (117 - 122)



Row 17 (123 - 130)



Row 18 (130 - 134)



Row 19 (134 - 141)



Row 20 (142 - 147)



Row 21 (147 - 150)

