

# Greatest Common Denominator with User Input for the Casio fx-5800P Calculator

[https://github.com/slugrustle/fx-5800P\\_progs](https://github.com/slugrustle/fx-5800P_progs)

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1  0→DimZ:
2  27→DimZ:
3  0→A:
4  "ENTER -1 AFTER  LAST INPUT":
5  While 1:
6    "NUMBER"?→B:
7    If B≠Int(B):
8      Then Cls:
9      "NUMBER MUST BE  AN INTEGER":
10     Stop:
11   IfEnd:
12   B=-1→Break:
13   If B<1 Or B≥1×1010:
14     Then Cls:
15     "NUMBER MUST BE  >0 And <1×1010":
16     Stop:
17   IfEnd:
18   A+1→A:
19   If A≤27:
20     Then B→Z[A]:
21   Else Cls:
22     "SUPPORTS AT MOST27 NUMBERS":
23     Stop:
24   IfEnd:
25 WhileEnd:
26 If A<2:
27   Then Cls:
28   "REQUIRES 2 OR  MORE NUMBERS":
29   Stop:
30 IfEnd:
31 A→D:
32 Z[D]→B:
33 For D-1→A To 1 Step -1:
34   Z[A]→C:
35   While B≠C:
36     If B≥C:
37       Then B-C×Int(B÷C)→B:
38       B=0⇒C→B:
39     Else C-B×Int(C÷B)→C:
40     C=0⇒B→C:
41   IfEnd:
42   WhileEnd:
43 Next:
44 1→C:
45 Int(D÷3)→E:
46 D-3×E>0⇒E+1→E:
47 Lbl 1:
48 Cls:
49 Locate 1,1,B:
50 Locate 12,1,C:

```

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51 Locate 13,1,"":
52 Locate 14,1,E:
53 3×(C-1)+1→A:
54 Locate 1,2,Z[A]:
55 A+1≤D⇒Locate 1,3,Z[A+1]:
56 A+2≤D⇒Locate 1,4,Z[A+2]:
57 While 1:
58   Getkey→F:
59   If F=34 Or F=73:
60     Then Cls:
61     "DONE":
62     Stop:
63   IfEnd:
64   If F=77 Or F=84 Or F=86 Or F=47:
65     Then C+1→C:
66     C>E⇒1→C:
67     Goto 1:
68   IfEnd:
69   If F=67 Or F=83 Or F=85:
70     Then C-1→C:
71     C<1⇒E→C:
72     Goto 1:
73   IfEnd:
74 WhileEnd

```

Lines 1–2: Set up memory for extra variables  $Z[\alpha]$  where  $\alpha \in [1, 27]$ .

Lines 3–31: User input of arguments for  $\text{GCD}(Z[1], \dots, Z[D])$ .  $D \in [2, 27]$ .

Lines 32–43: Evaluate  $B = \text{GCD}(Z[1], \dots, Z[D])$ . Thanks Euclid.

Lines 44–74: Display result and inputs.

A: Index into extra variable memory.

B: User input and GCD evaluation.

C: GCD evaluation and number of displayed input argument page.

D: Number of input arguments.

E: Number of input argument display pages (3 inputs per page).

F: Identifier of most recently pressed key.

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