Tiny CPU – Implementation

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FSM I

```
Addr. Machine Codes
00    60                CLA          ;Clear Acc and then add the operand is
01    20 22             ADD $GDAT    ;equivalent to move the operand to Acc
03    40 FF             STR $IOP
05    60                CLA
06    20 25             ADD $ONE
08    20 FF             ADD $IOP
0A    A0 0E             JNZ $FG      ;checking fast/slow input
0C    60                CLA
0D    60                CLA
0E    60          FG:   CLA
0F    20 23             ADD $YDAT
11    40 FF             STR $IOP
13    60                CLA
14    20 24             ADD $RDAT
16    40 FF             STR $IOP
18    60                CLA
19    20 25             ADD $ONE
1B    20 FF             ADD $IOP
1D    A0 21             JNZ $RG      ;checking fast/slow input
1F    60                CLA
20    60                CLA
21    E0          RG:   RST          ;jump back to addr. 00

22    FE          GDAT: DAT   1111 1110   ;Constant to turn on Green LED
23    FD          YDAT: DAT   1111 1101   ;Constant for Yellow LED
24    FB          RDAT: DAT   1111 1011   ;Constant for Red LED
25    01          ONE:  DAT   0000 0001   ;Constant 1
                  IOP:  EQU   $FF
```

Based on http://www.ele.uri.edu/Courses/ele306/f01/Tinydoc.pdf

References

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