5) Program to demo the elevator interface.

A.
```c
#include < stdio.h>
#include < reg51.h>
unsigned char xdata CommandWord _ at _ 0xe803;
unsigned char xdata PortA _ at_ 0xe800;
unsigned char xdata Port B _ at _ 0xe801;
unsigned char xdata Present Floor, Requested Floor, Step = 0xf0;
unsigned long xdata Count, i;
Delay() {
for ( Count = 0; Count <= 4500; Count ++);
}

Reset() {
Step = Step & 0x0f;
PortA = Step;
Step = Step | 0xf0;
PortA = Step;
}

GoUP() {
Switch ( Requested Floor) {
case 0x0d : while (Step < 0 xf3) {
            Step ++;
            Port A = Step;
            Delay();
            }
            Reset();
            break;


case 0x0b : while (Step < 0xf6) {
            Step ++;
            Port A = Step;
            Delay();
            }
            Reset();
```

```c
                    break;
case  0x07:     while (Step < 0xf9) {
                    Step++;
                    PortA = Step;
                    Delay();
                }
                    Reset();
                    break;
            }}
GoDown() {
switch (RequestedFloor) {
case  0x0d:     while (Step > 0xf3) {
                    Step--;
                    PortA = Step;
                    Delay();
                }
                    Reset();
                    break;
case  0x0b:     while (Step > 0xf6) {
                    Step--;
                    PortA = Step;
                    Delay();
                }
                    Reset();
                    break;
case  0x0c:     while (Step > 0xf0) {
                    Step--;
                    PortA = Step;
                    Delay();
                }
                    Reset();
                    break;
            }}
```

```
void main() {
Command World = 0x82;
PortA = 0xf0;
Present Floor = 0x0e;
while (1) {
RequestedFloor = ~~~~~ PortB;
~~~~~~~ RequestedFloor = Requested Floor & 0x0f;
if (RequestedFloor != 0x0f && Requested Floor != Present Floor) {
if (Requested Floor < Present Floor)
GoUP();
else
GoDown();
Present Floor = Requested Floor;
}
Requested Floor = PortB;
}
}
```