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1BM19CS199

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LAB PROGRAM - 15

Q. Program to demo the elevator interface.

A.
```
#include <stdio.h>
#include <reg51.h>

unsigned char xdata Command_word _at_ 0xe803;
unsigned char xdata PortA _at_ 0xe800;
unsigned char xdata PortB _at_ 0xe801;
unsigned char xdata PresentFloor, RequestedFloor, 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;
}
Golup()
{
    switch (RequestedFloor)
    {
        case 0x0d: while (Step < 0xf3)
                   {
                       Step++;
                       PortA = Step;
```

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```
            Delay();
        }
        Reset();
        break;

    case 0x0b: while (Step<0xf6)
        {
            Step++;
            PortA=Step;
            Delay();
        }
        Reset();
        break;

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

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```
            Delay();
        }
        Reset();
        break;

    case 0x0b : while (Step > 0xf6)
            {
                Step--;
                PortA = Step;
                Delay();
            }
        Reset();
        break;

    case 0x0e : while (Step > 0xf0)
            {
                Step--;
                PortA = Step;
                Delay();
            }
        Reset();
        break;
    }
}

void main()
{
    CommandWord = 0x82;
    PortA = 0xf0;
    PresentFloor = 0x0e;
    while (1){
        RequestedFloor = PortB;
```

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```
RequestedFloor = RequestedFloor & OxOf;
if( RequestedFloor != OxOf && RequestedFloor != PresentFloor)
{
    if ( RequestedFloor < PresentFloor)
        GoUp();
    else
        GoDown();
    PresentFloor = RequestedFloor;
}
RequestedFloor = PortB;
}
}
```