5. Program to demo two elevator interface.

Program:-

```
#include<stdio.h>
#include<reg51.h>
unsigned char data CommandWord _at_ 0xe803;
unsigned char data PortA _at_ 0xe800;
unsigned char data PresentFloor, RequestedFloor, step=0xf0;
unsigned long data Count,i;
Delay()
{
  For(Count=0; Count<=4500; Count++);
}
Reset()
{
  step = step & 0x0f;
  PortA = step;
  step = step | 0xf0;
  PortA = step;
}
GoUP()
{ 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 0x07 ; while ( Step < 0xf9)
            {
                Step++;
                Port A = Step;
                Delay ();
                }
                Reset ();
                break;
        }
    }

Go Down ()
  {
    Switch (Requested Floor)
    {
      case 0x0d:  while (Step > 0xf3)
                  {
                    Step--;
                    Port A = Step;
                    Delay ();
                  }
                  Reset ();
                  break;
      case 0x0e: While (Step > 0xf0)
                  {
                    Step--;
                    PortA = Step;
                    Delay ();
                  }
                  Reset ();
                  break;
    }
  }
```

```
Void main()
{
  CommandWord = 0x82;
    PortA = 0xf0;
    Present Floor = 0x0e;
    While(1)
    {
      RequestedFloor = ~~0x0e~~ PortB;
      Requested Floor = Requested Floor & 0x0f;
    if (Requested Floor != 0x0f && Requested floor != Present Floor)
      { if (Requested floor < present floor)
              GoUP();
          else
            GoDown();
          presentfloor = Requested Floor;
        }
          Requested Floor = portB
    }
```