Program to demo the elevator interface :-

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

unsigned char xdata CommandWord _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++);
    return 0;
}
Reset()
{
  Step= step & 0x0f;
  PortA= Step;
  Step= Step | 0xf0;
  PortA= Step;
  return 0;
}
GroUp()
{
 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++;
                    PortA = Step;
                    Delay();
                    }
                    Reset();
                    break;
}

  return 0;
}

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 0x0e: while(Step > 0xf0)
           {
            Step--;
            PortA= Step;
            Delay();
           }
           Reset();
           break;
  }
  return 0;
}
Void main()
{
CommandWord = 0x82;
PortA = 0xf0;
PresentFloor = 0x0e;
```

```
while (1) {
RequestedFloor = PortB;
RequestedFloor = RequestedFloor & 0x0f;

if (RequestedFloor != 0x0f && RequestedFloor != PresentFloor) {
  if (RequestedFloor < PresentFloor)
        GoUp();
  else
     GoDown();
  PresentFloor = RequestedFloor;
  }
  RequestedFloor = PortB;
  }
  }
```