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papergrid
Date: / /

Program to demo the elevator interface

```
#include<stdio.h>
#include<reg51.h>
unsigned char xdata CommandWord_at_0xe803;
unsigned char xdata dataPortA_at_0xe800;
unsigned char xdata dataPortB_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;
}

Group()
{
Switch(RequestedFloor)
{
case 0xd: while(Step<0xf3)
    {
     Step++;
     PortA = Step;
     Delay();
    }
     Reset();
     break;
```

```
case 0x06 : while (step < 0xf6)
    {
     Step ++;
     Port A = Step;
     Delay ();
     }
     Reset();
     break;

case 0x07 : while (Step<0xf9)
     {
      Step++;
    Port A = step;
    Delay ();
     }
     Reset ();
     break;
  }
}

GoDown ()
{
 Switch (Requested Floor)
{
 case 0x0d : while (Step>0xf3)
          {
           Step --;
          Port A = 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;
   }
  }

Void main()
{

Command Word = 0x82;
PortA = 0xf0;
PresentFloor = 0x0e;
while(1) {
 RequestedFloor = PortB;
RequestedFloor = RequestedFloor & 0x0f;
if (RequestedFloor != 0x0f && Requested
                    Floor != PresentFloor)
```

```
{
if(Requested Floor < Present Floor)
      GoUp();
 else
   GoDown();
Present Floor = Requested Floor;
 }

 Requested Floor = Port B;
 }
```