7·1·21

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Program5: Demo the elevator interface

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


unsigned char xdata CommandWord _ at_ One 803;
unsigned char xdata PortA _at_0xe800;
unsigned char xdata PortB _at_0xe801;
unsigned char xdata Present Floor, RequestedFloor, Step = 0xf0;
unsigned long xdata Count, L;


Delay()
{
for (Count=0; Count <= 4500; Count ++);
}
Reset()
{
Step= Step & 0x0f;
PortA = Step;
Step = Step | 0xf0;
PortA = Step;
}
GoUp()
{
Switch (RequestedFloor)
{
```

```c
{
    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;
```

```
        }
     }

GoDown ()
   {
   switch (Requested Floor )
        {
           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)
                         {
```

```c
        step-;
      PortA = step;
        Delay ();
      }
      Reset ();
    break;
    }
  }

void main ()
  {
Command Word = 0x82;
PortB = 0x f0;
Present Floor = PortB;
RequestedFloor = RequestedFloor & 0x0f;

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