

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 long 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;
}
```

GoUp()

```
{  
  switch (RequestedFloor)  
  {  
    case 0x0d: while (Step < 0xf3)  
    {  
      Step++;  
      Port A = Step;  
      Delay();  
    }  
    Reset();  
    break;
```

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

```
case 0x07: while (Step < 0xfa)  
{  
  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 --;
```

```
Port A = Step;
```

```
Delay ();
```

```
}
```



```
Reset();  
break;
```

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

```
void main()  
{  
    CommandWord = 0x82;  
    Port A = 0xf0;  
    PresentFloor = 0x0e;  
    while (1) {  
        RequestedFloor = Port B;  
        RequestedFloor = RequestedFloor & 0x0f;
```

```
if (RequestedFloor != 0x0f & Requested Floor  
    != Present Floor) {
```

```
    if (RequestedFloor < Present Floor)
```

```
        GoUp();
```

```
    else
```

```
        GoDown();
```

```
    Present Floor = Requested Floor;
```

```
}
```

```
RequestedFloor = Port B;
```

```
}
```


