

Program 05: 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++);
}
```

```
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++;
    PortA = Step;
    Delay();
}
Reset();
break;
}

```

GoDown() {

```

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;
```

```
}
```

```
void main() {
```

```
    CommandWord = 0x82;
```

```
    PortA = 0xf0;
```

```
    PresentFloor = 0x0e;
```

```
    while(1) {
```

```
        RequestedFloor = PortB;
```

```
        RequestedFloor = RequestedFloor & 0xf;
```

```
        if (RequestedFloor != 0xf && RequestedFloor  
            != PresentFloor) {
```

```
            if (RequestedFloor < PresentFloor)
```

```
                GoUp();
```

```
            else
```

```
                GoDown();
```

```
            PresentFloor = RequestedFloor;
```

```
        }
```

```
        RequestedFloor = PortB;
```

```
}
```