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Date _____
Page _____

Program-5

Program to demo the elevator interface

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

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

```
unsigned char xdataCommandWord_at_0xe803;
```

```
unsigned char xdataPortA_at_0xe800;
```

```
unsigned char xdataPresentFloor, RequestedFloor, Step=0xf0;
```

```
unsigned long xdataCount, 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 ()
```

```
{
```

```
    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;
}
}

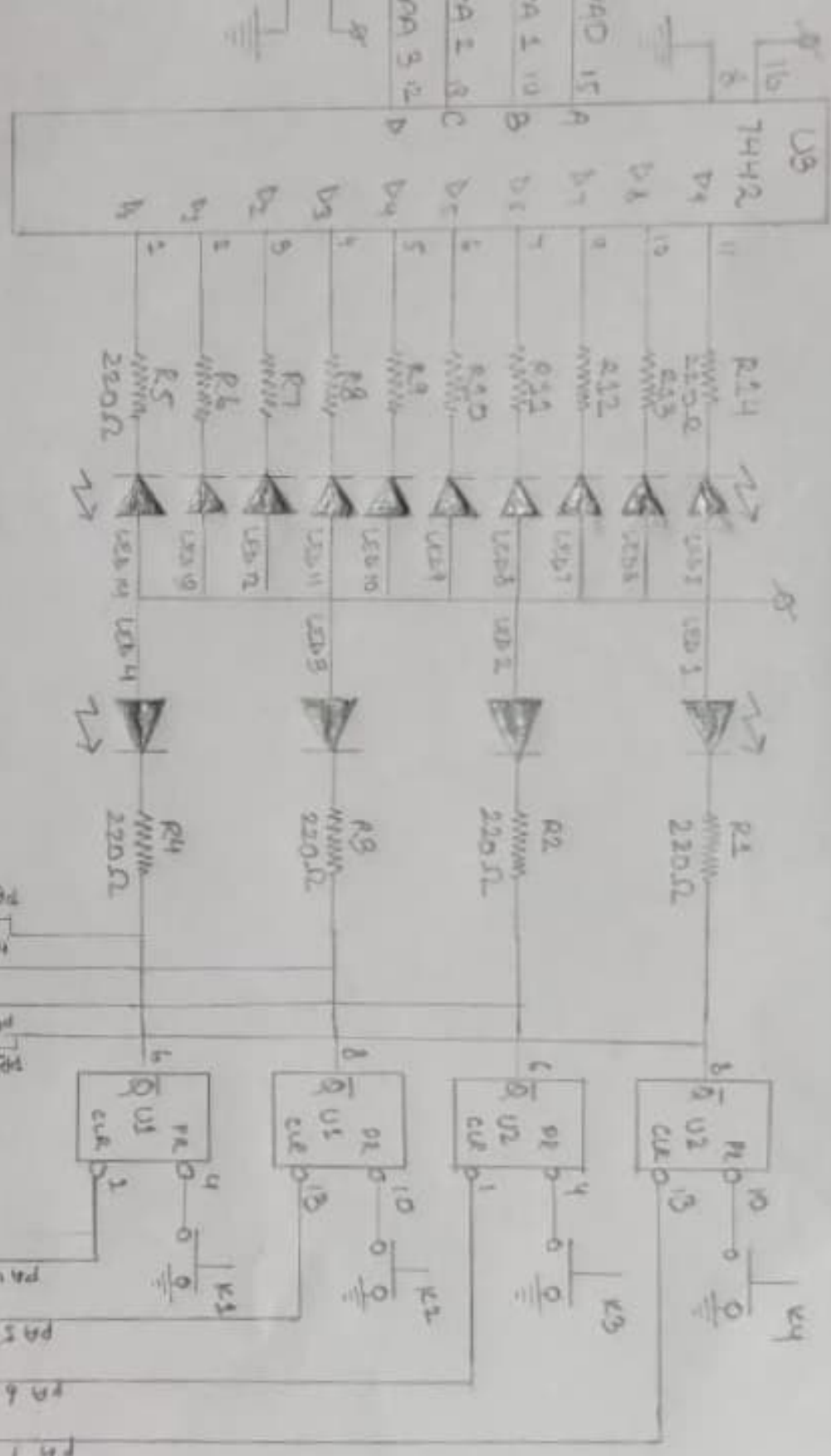
void main()
{
    CommandWord = 0x82;
    PortA = 0xf0;
    PresentFloor = 0x0e;
    while(1)
    {
        RequestedFloor = PortB;
        RequestedFloor = RequestedFloor & 0x0f;

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

            PresentFloor = RequestedFloor;
        }
        RequestedFloor = PortB;
    }
}

```

21	PA0 15	D
22	PA1 10	C
24	PA2 8	B
20	PA3 12	A
25		
26		



PORT B (IN)

PORT A (OUT)