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Date
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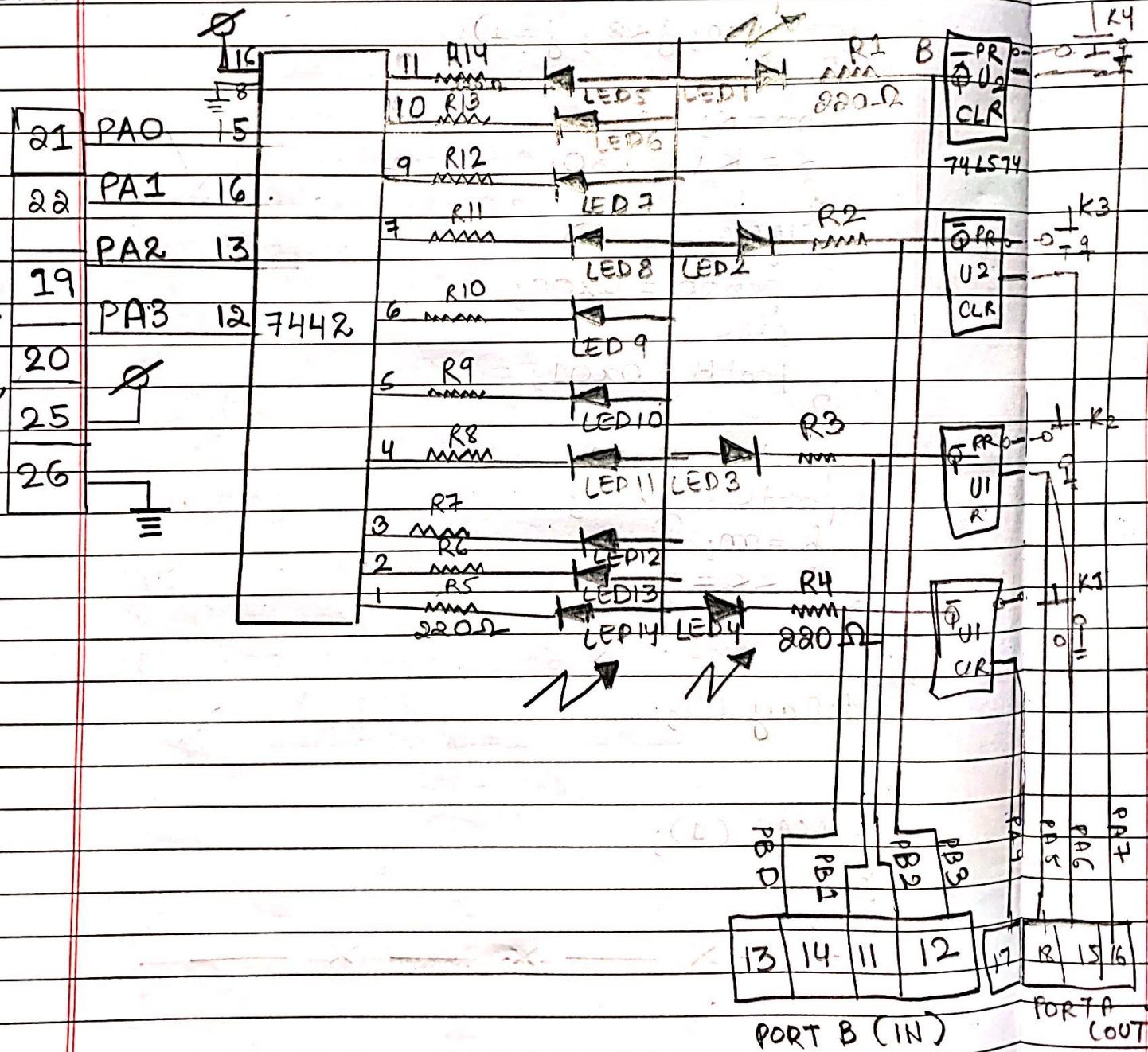
(5) Program to demo the elevator interface.

Soln:-



```
#include <stdio.h>
#include <reg51.h>
unsigned char xdataCommandWord_at_0xe803;
unsigned char xdataPortA_at_0xe800;
unsigned char xdataPortB_at_0xe801;
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;
}

Gollp()
{
  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;
  }
}
```

④

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

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

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