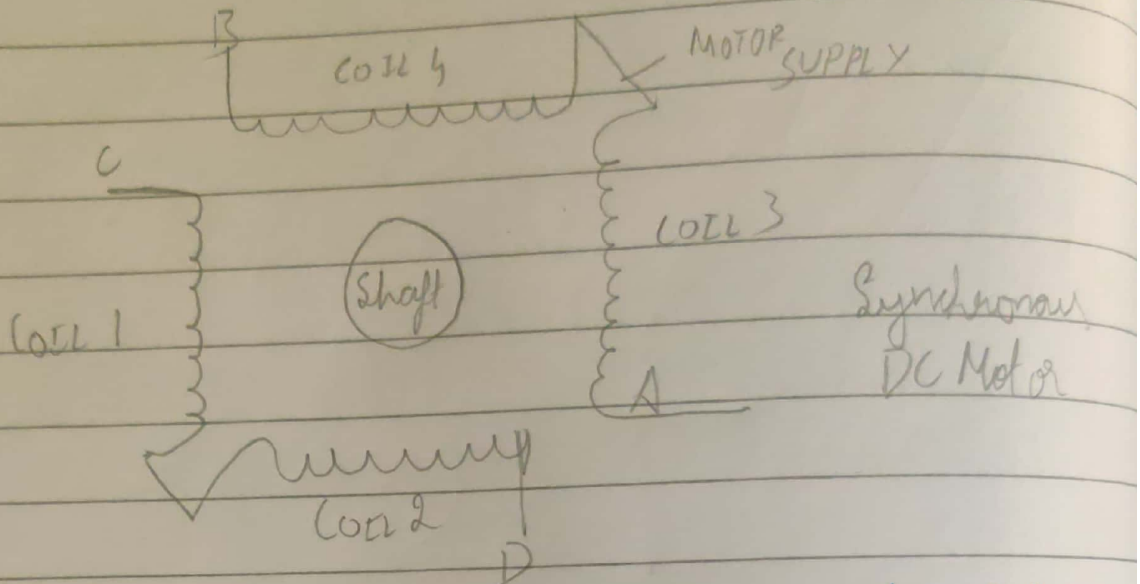
PROGRAM- 1



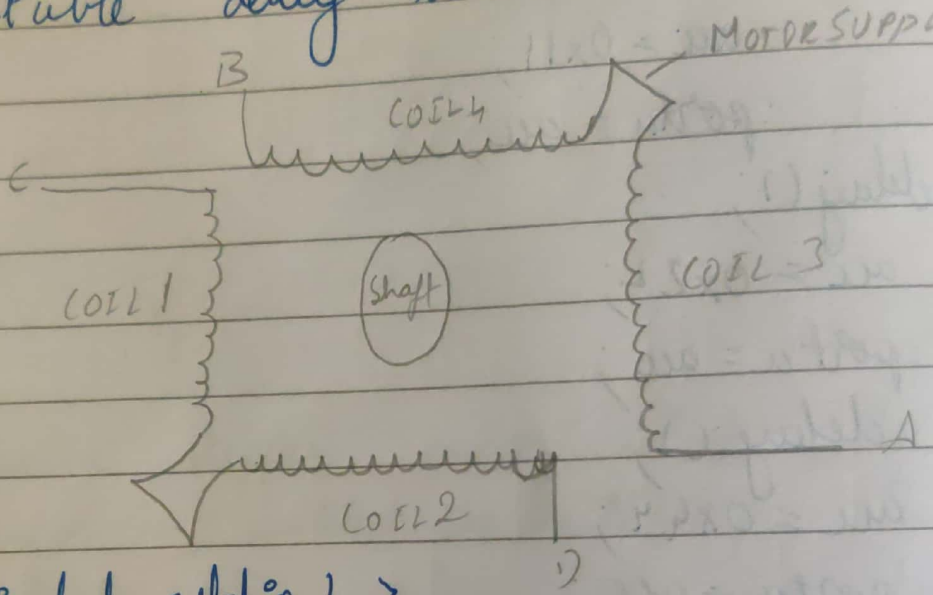
Drive a stepper motor interface to rotate the motor in anticlockwise by N steps. Introduce suitable delay between successive steps

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

char xdata port_at_ox 803;
char xdata port-at-ox 800;
char idata pox ax - at - 0x 30;

delay (){
    int j;
  for (j=0; j<800; j++)
    { }
    }
```

```
void main(){
  port = 0x80;
  while(1) {
        acc = 0x11;
        porta = acc;
  delay();
   acc = 0x22;
   porta = acc;
    delay();
   acc = 0x44;
   porta = acc;
    delay();
}
}
```

PROGAM:2

Derive a stepper Motor interface to rotate the motor in clockwise by N steps introduce suitable delay between successive steps



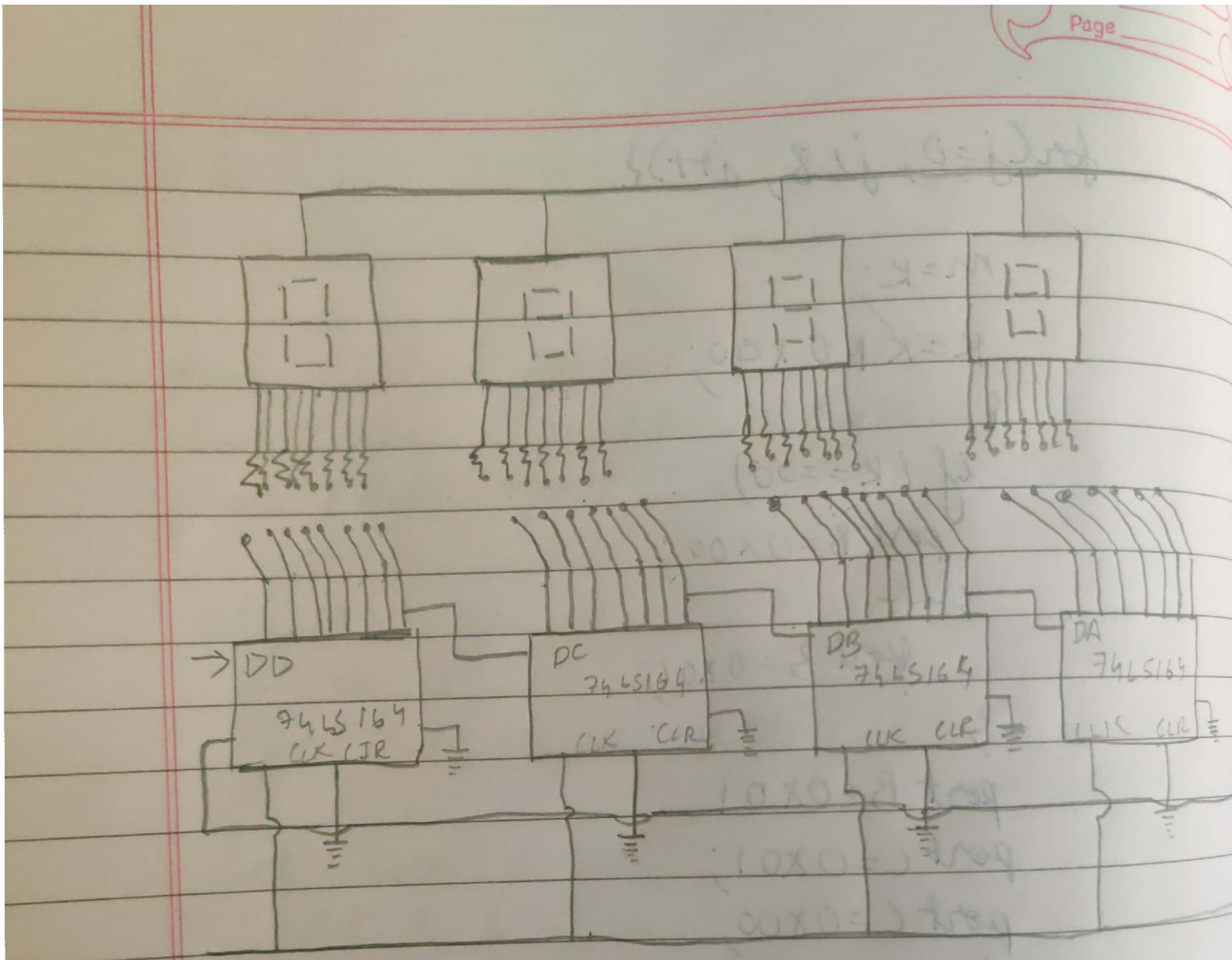

```
# include <stdio.h>
# include <reg51.h>
char xdata port_at_0xe803;
char xdata porta_at_0xe800;
char idata aa_at_0x30;

delay() {
int j;
for(j=0; j<800; j++)
  {}
}
void main() {
    port=0x80;
```

```
while(1) {
    au = 0x88;
    porta = au;
   delay();
au = 0x44;
porta = au;
   delay(1);
   au = 0x11;
   porta = au;
    delay();
   }
}
```

PROGRAM: 3

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

char xdata commit_at_0xe803;
char xdata portB_at_0xe801;
char xdata portC_at_0xe802;

delay(){
    long u;
    for(u=0; u<800; u++);
}
void main(){
    int d, b, j, m;
    unsigned char K;
    comm=0x80;
do{
    j=0;
    for(d=0; d<3; d++)
{
    for(b=0; b<4; b++
    {
        K= port[j++];
    }
```

```
for(j=0; j<8; j++){
    m=K;
    K=K & 0x80;
    {
     if (K==00)
      portB=0x00;
     else
        portB=0x01;
    }
    portB=0x01
    portC=0x01;
    portC=0x00;
    K=m;
    K<<=1;
}}
delay();
  }
  while(1);
  }
```



Pco

PROGRAM-4

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

char xdata commW _at_ 0xe803;
char xdata portB _at_ 0xe801;
char xdata portC _at_ 0xe802;
char port[20] = 0xff, 0xff, 0xff, 0xff
        0x83, 0x88, 0x82, 0x88, 0xc7,
        0xc0, 0xaf, 0x86};

void display()
{
  long u;
  for(u=0; u<9000; u++)
        {}
  }
  void main(){
      int d, k, j, m, i;
      unsigned char k;
      commW = 0x80;
      do{
       k=0;
      for(d=0; d<k; d++){
        for(k=13; i>0; i--){
          delay();
```

```
for(j=0;j<a;j++){

    m=K;
    K=K & 0x80;
    if(K==0)
      portB=0x00;
    else
      portB=0x01;
    portC=0x01;
    portC=0x00;
    K=m;
    K<<=1;
}
}
delay();
}}
while(1);
}
```

PROGRAM: 5

```
#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 Present floor,
        Requested Floor, step = 0xF0;

unsigned long xdata count, i;

Delay {
Delay {
   for( count = 0; count <= 4500 ; count++)
   }
Reset (){
    Step = Step & 0x0f;
    PortA = Step;
     Step = step | 0xf0;
     PORTA = step;
   }
GoUP(){
    Switch (Requested floor) {
  case 0x0d: while (step < 0xfs) {
          Step++;
```

```
        PortA = Step;
        Delay();
    }
    Reset();
    break;
case 0x06: while(step<0xf6){
        Step++;
    PortA = Step;
    Delay();
    }
    Reset();
    break;

case 0x07: while (step<0xf9)
    {
    & step++
    PortA = step;
    Delay();
    }
    Reset();
    break;
}
}
```

```
case 0x01: 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;
    Present floor = 0x0e;
    while(1){
    Requested floor = PortB;
    Requested floor = Requested floor & 0x0f;
```

```
if (Requested floor < Present floor)
    GoUp();
else
    GoDown();
Present Floor = Requested floor;
}
Requested floor = PartB;
}
```