

Embedded C Programming
Laboratory 12
Programs on Stepper Motor

Task 1:

```
#include <reg52.h>
#define Stepper_Port P0 /* Define Stepper Motor Port */
/* Function to provide delay of 1ms at 11.0592 MHz */
void delay(unsigned int count)
{
    int i,j;
    for(i=0; i<count; i++)
        for(j=0; j<112; j++);
}
int main(void)
{
    int i,period;
    period = 100; /* Set period in between two steps of Stepper Motor */
    while (1)
    {
        /* Rotate Stepper Motor clockwise with Half step sequence */
        for(i=0; i<12; i++)
        {
            Stepper_Port = 0x09;
            delay(period);
            Stepper_Port = 0x08;
            delay(period);
            Stepper_Port = 0x0C;
            delay(period);
            Stepper_Port = 0x04;
            delay(period);
            Stepper_Port = 0x06;
            delay(period);
            Stepper_Port = 0x02;
            delay(period);
            Stepper_Port = 0x03;
            delay(period);
            Stepper_Port = 0x01;
            delay(period);
        }
        /* last one step to acquire initial position */
        Stepper_Port = 0x09;
```

```
delay(period);
delay(1000);
/* Rotate Stepper Motor Anticlockwise with Full step sequence */
for(i=0; i<12; i++)
{
    Stepper_Port = 0x09;
    delay(period);
    Stepper_Port = 0x03;
    delay(period);
    Stepper_Port = 0x06;
    delay(period);
    Stepper_Port = 0x0C;
    delay(period);
}
Stepper_Port = 0x09;
delay(period);
delay(1000);
}
```