AJITH SHETTY

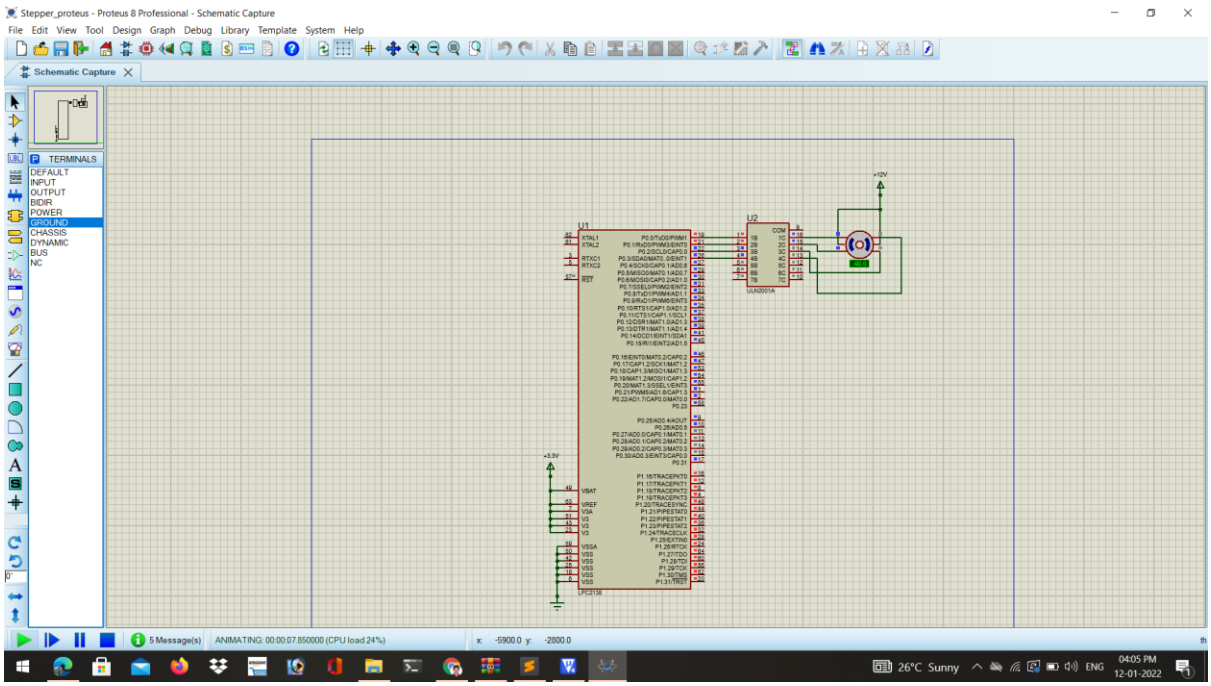
211039023

1.Stepper motor

```
#include <LPC213X.h>

void delay();
int i;
//unsigned char dir_fl;

int main()
{
		IODIR0 = 0XFFFFFFFF;//setting the direction of pins as Output
		//dir_fl = 0;

		while(1)
		{
			//if(dir_fl == 0)  //This if can be used when we like to change the direction of rotation in the motor
			//{
				IOSET0 = 0x3;//0011 coil is energized in this
				delay();
				IOCLR0 = 0x3;

				IOSET0 = 0x6;//0110 coil is energized in this
				delay();
				IOCLR0 = 0x6;

				IOSET0 = 0xC;//1001 coil is energized in this
```

```
                        delay();
                        IOCLR0 = 0xC;

                        IOSET0 = 0x9;//1100 coil is energized in this
                        delay();
                        IOCLR0 = 0x9;
                //}


                /*else if(dir_fl == 1)  //This is the code for running the motor in reverse
direction
                {
                        IOSET0 = 0x9;
                        delay();
                        IOCLR0 = 0x9;

                        IOSET0 = 0xC;
                        delay();
                        IOCLR0 = 0xC;

                        IOSET0 = 0x6;
                        delay();
                        IOCLR0 = 0x6;

                        IOSET0 = 0x3;
                        delay();
                        IOCLR0 = 0x3;
                }       */
        }
}
```

```
void delay()
{
        for(i=0; i<=5000;i++)
                for(i=0; i<=150000; i++);

}
```



2.DC Motor

```
#include<LPC213x.h>

#define bit(x) (1<<x)
#define delay for(i=0;i<=60000;i++)



unsigned int i;



void main()
{
IO0DIR=0xf; //Declaring as a output
IO0PIN=0; //Clear all IO Pins in P0
VPBDIV=0x01; //PCLK = 60MHz

while(1)
{
//Forward
IO0SET=bit(0); //IN1 = 1
IO0CLR=bit(1); //IN2 = 0
delay;
delay;

//Off
IO0CLR=bit(0)|bit(1); //IN1 = IN2 = 0
delay;
```

```
delay;


//Reverse
IO0SET=bit(1); //IN2 = 1
IO0CLR=bit(0); //IN0 = 1
delay;
delay;


//Off
IO0CLR=bit(0)|bit(1); //IN1 = IN2 = 0
delay;
delay;
}
}
```