INTERFACING & CONTROL OF STEPPER MOTOR WITH AT89C51 MC USING KEIL & PROTEUS SIMULATION

Rotating Stepper Motor in Clockwise Direction

AIM: To interface & control of stepper motor with Atmel AT89C51 microcontroller using Keil & Proteus simulation.

Software required:

1. Keil Version-3
2. Proteus 8 Professional

Procedure:

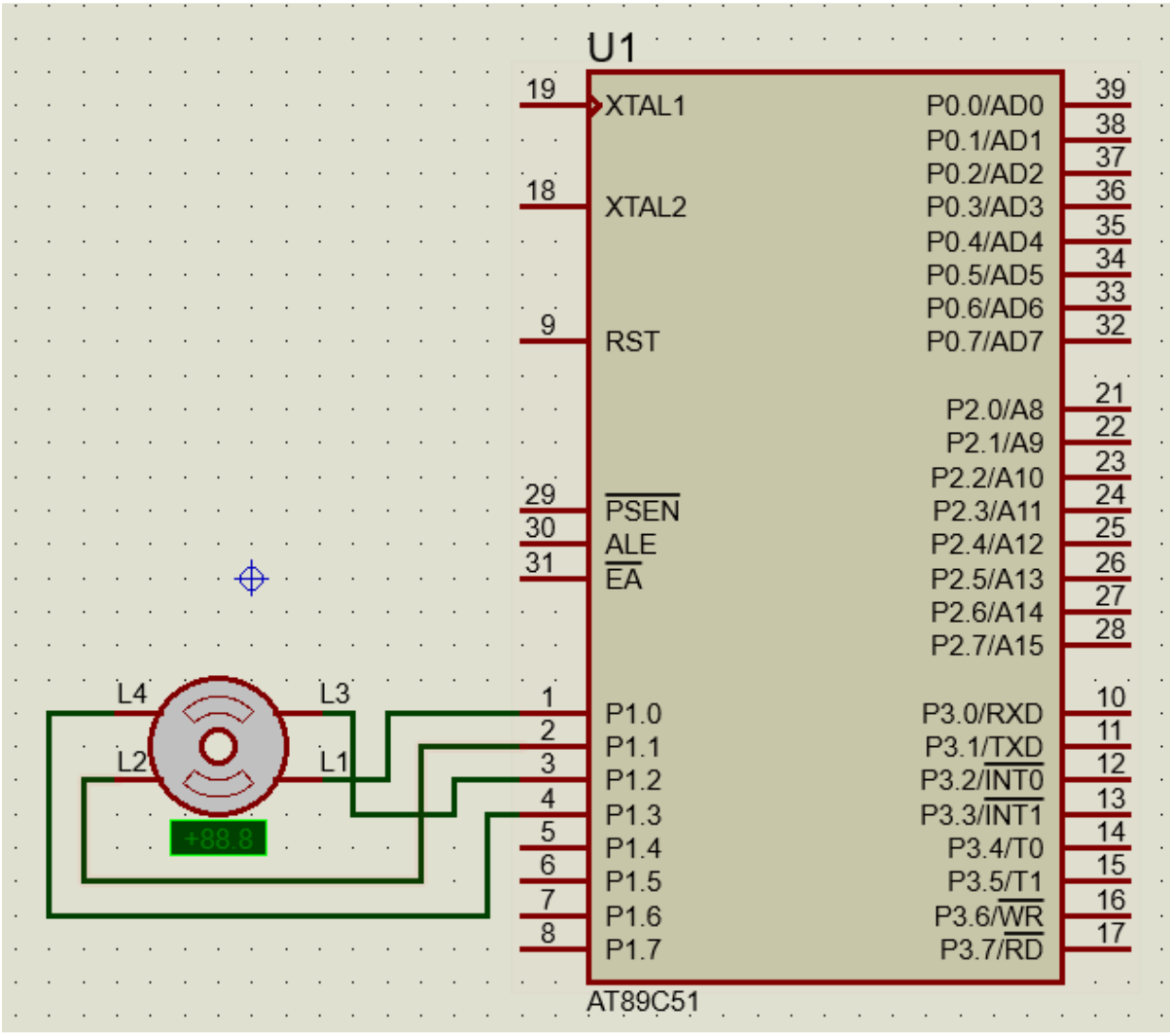
1. Write an embedded C program to interface & control of stepper motor with AT89C51 microcontroller using Keil Version-3.
2. Generate hex file for the program written for the required application.
3. Connect the hardware circuit in Proteus 8 Professional software with the required components.
4. Load the hex file in the AT89C51 microcontroller & set the operating frequency as 11.0592MHz.
5. Run the circuit and check the results.

Embedded C program:

```
#include<reg51.h> // To include 8051 header file //
sbit l1=P1^0; // Lines L1 to L4 are assigned to Port P1.0 to P1.3 //
sbit l2=P1^1;
sbit l3=P1^2;
sbit l4=P1^3;
void main()
{
unsigned int i;
l1=l2=l3=l4=0;
while(1)
{
l4=1; // To send the input pattern 1000 //
l1=l2=l3=0;
for(i=0;i<60000;i++);
l3=1; // To send the input pattern 0100 //
l1=l2=l4=0;
for(i=0;i<60000;i++);
l2=1; // To send the input pattern 0010 //
l1=l3=l4=0;
for(i=0;i<60000;i++);
l1=1; // To send the input pattern 0001 //
l2=l3=l4=0;
```

```
for(i=0;i<60000;i++);
}
}
```

Hardware Circuit:



Result: Interfacing & controlling of stepper motor to rotate in anti-clockwise direction with Atmel AT89C51 microcontroller using Keil & Proteus simulation is done successfully.