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Temperature control DC fan

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Description of the project:

A Temperature Controlled DC Fan is a system which automatically turns on a DC Fan when the ambient temperature increases above a certain limit.

Generally, electronic devices produce more heat. So this heat should be reduced in order to protect the device. There are many ways to reduce this heat. One way is to switch on the fan spontaneously.

Components:

● Atmega16 Microcontroller: ATmega16 is an 8-bit high performance microcontroller from the Atmel's Mega AVR family. Atmega16 is a 40-pin microcontroller based on enhanced RISC (Reduced Instruction Set Computing) architecture with 131 powerful instructions.

● LM35 Temperature Sensor: LM35 is a temperature measuring device having an analog output voltage proportional to the temperature

● L293D Motor Driver: The L293D is a 16-pin Motor Driver IC which can control a set of two DC motors simultaneously in any direction.

● 12v DC Fan: Axial compact fans are suitable for high air performance with moderate pressure build-up.

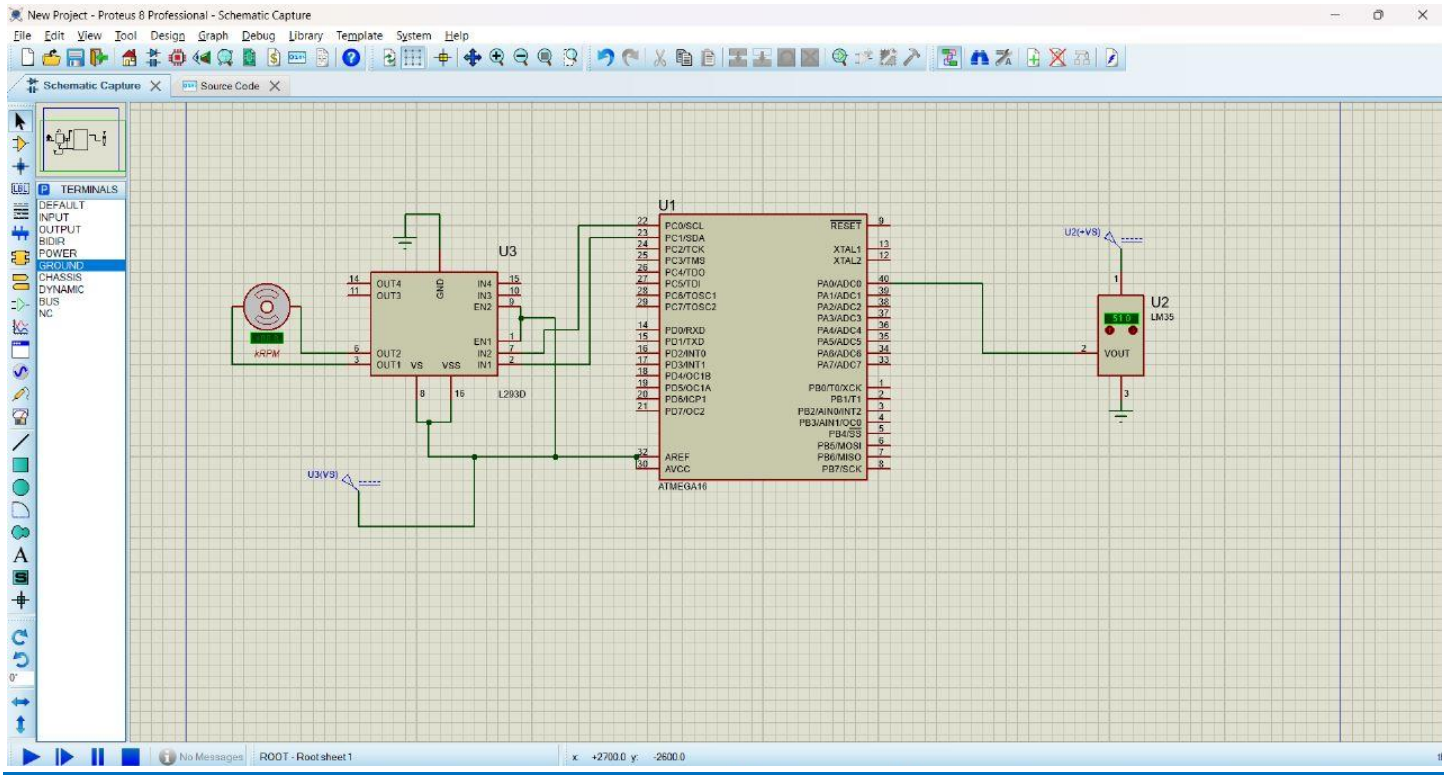
Operation:

- Fan that works by sensing heat from overheating into three levels according to the heat level sensed by (lm35)
- Low speed: 30 - 65 °C
- mid speed: 65 - 90 °C
- High speed: 90°C or higher

Code requirements (Pseudo code):

- ✓ Configure pins (Input and Output).
- ✓ Check If the temperature that the sensor reads bigger than or equal to 30°C and less than or equal to 65°C then play the fan on the lowest speed.
- ✓ Elseif temperature that the sensor reads bigger than or equal to 66°C and less than or equal to 90°C then play the fan on the middle speed.
- ✓ Elseif temperature that the sensor reads bigger than or equal to 91°C then play the fan on the Hight speed.
- ✓ Else the fan won't work as the temperature is little than 30°C.

Simulation:



Submitted to:

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