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Aim: To conduct an experiment to determine the sensitivity of the temperature sensor

Component Required:-

S.NO	Components	Quantity
1	LM35 (Temperature sensor)	1
2	Connecting wire	3
3	Arduino Board	1
4	Program	
5		
6		

Theory:

LM35 is a temperature measuring device having an analog output voltage Proportional to temperature

- It Provides output voltage in centigrade Celsious. It doesnot require any external calibration circuitry
- LM35 gives temperature output which is more Precise the thermistor output LM35 is a Precession In te grts circuit

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Temperature Sensor. Whose output voltage varies based on the temperature around it is a small and cheap Ic which can be used to measure temperature anywhere between 55°c to 150°C. It can be easily interfaced with any micro controller that has ADC function or any development platform like Arduino

IF the temperature is 0°C then output voltage will also be 0V

Procedure:-

i) Collect the components necessary to complete the circuit

ii) Connect LM35 (temperature sensor) with Arduino board.

iii) These are 3 terminals in sensor i.e Vcc, Vout and GND

iv) Connect Vcc with 5V GND with GND and Vout with A0 of Arduino Board.

v) With the variation of temperature Vout will change and simulate code.

vi) Repeat above steps by taking different measurements.

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Program

```
int val;
Int setup (){
Serial begin (9600);
{
Void loop (){
val= analog Read (temppin);
float mv=(val/1024.0) * 5000;
float cel=mv/10;
float fenh=cel(*9)/5+32;
 float kel-273+cel;
Serial.Print (cel);
Serial.Print ("*C");
Serial.PrintIn ();
Serial.PrintIn ();
 delay (1000);
Serial.Print ("Temperature in Felonentit");
Serial.Print (forh);
Serial.Print ("*F");
Serial.Print ();
Serial.PrintIn();
Serial.Print ("Temperature in kelvin");
Serial.Print In ();
 delay (1000);
}
```

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observation:-

S.NO	Temp in cel (*C)	Fahreheit	Kelvin
1	30°C	86°F	303.15K
2	23°C	73.4°F	296.15K
3	50°C	122°F	323.15K
4	90°C	204.8F	363.15K

Result: Sensitivity of the Tempercature sensore was determinend and output in various Scales were verified.