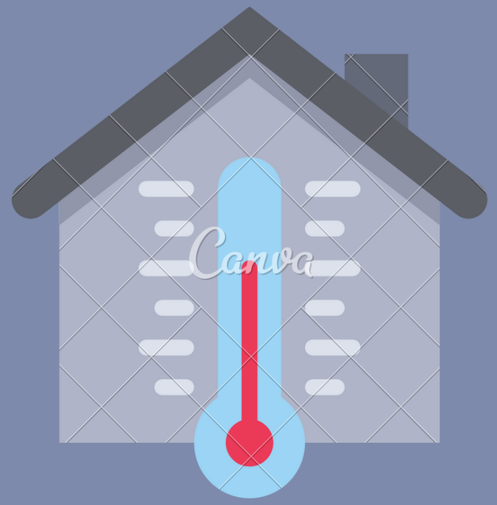
Amrita School of Engineering Amritapuri

ROOM TEMPERATURE DETECTOR



Presented by:

SYED MUHAMMED TAHIR -AM.EN.U4AIE21163
VANGAPANDU RITHIN CHAND - AM.EN.U4AIE21174
ADITHYA D VARMA -AM.EN.U4AIE21104
SREENANDANA NANDAKUMAR -AM.EN.U4AIE21161

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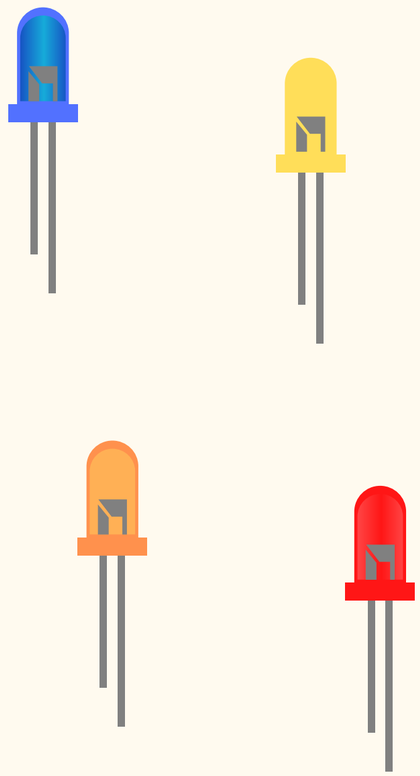


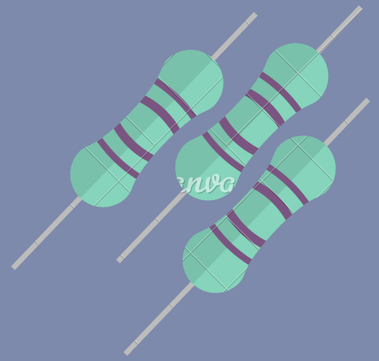
Introduction

In this project, an Arduino is used to make a temperature sensor, which is used to detect the temperature in a room and register the output with four LEDs of distinct colors (Blue, Yellow, Orange, Red) according to the degree of hotness or coolness.

Components required

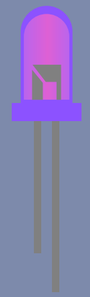
Resistors of 221 Ω

4



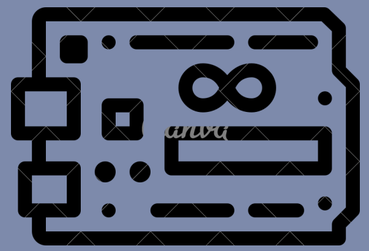
LEDs

4



Temperature sensor

1

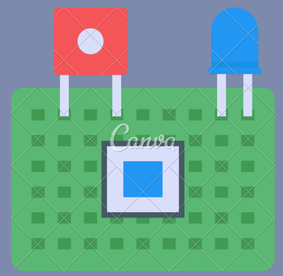


Arduino Uno R3

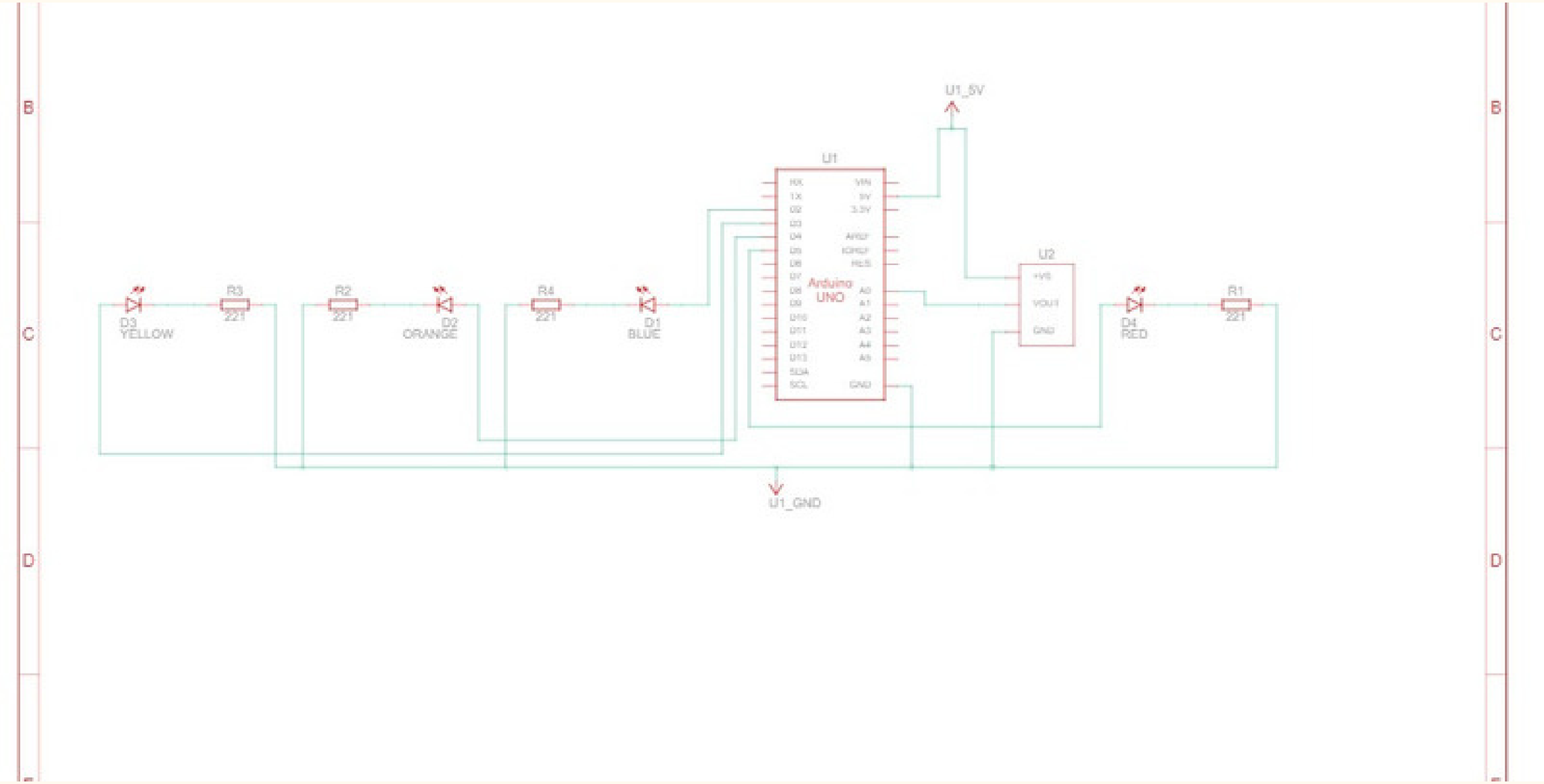
1

Breadboard small

1



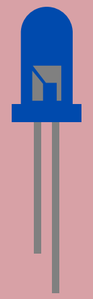
CIRCUIT DIAGRAM



WORKING OF THE SYSTEM

CASE 1

If the temperature is set at 12 degrees celsius, upon starting the simulation the blue LED glows which indicates that the temperature is low.



CASE 2

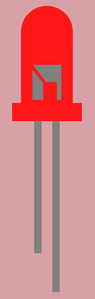
If the temperature is set at 28 degrees celsius, upon starting the simulation the yellow LED glows which indicates that the temperature is warm.

CASE 3

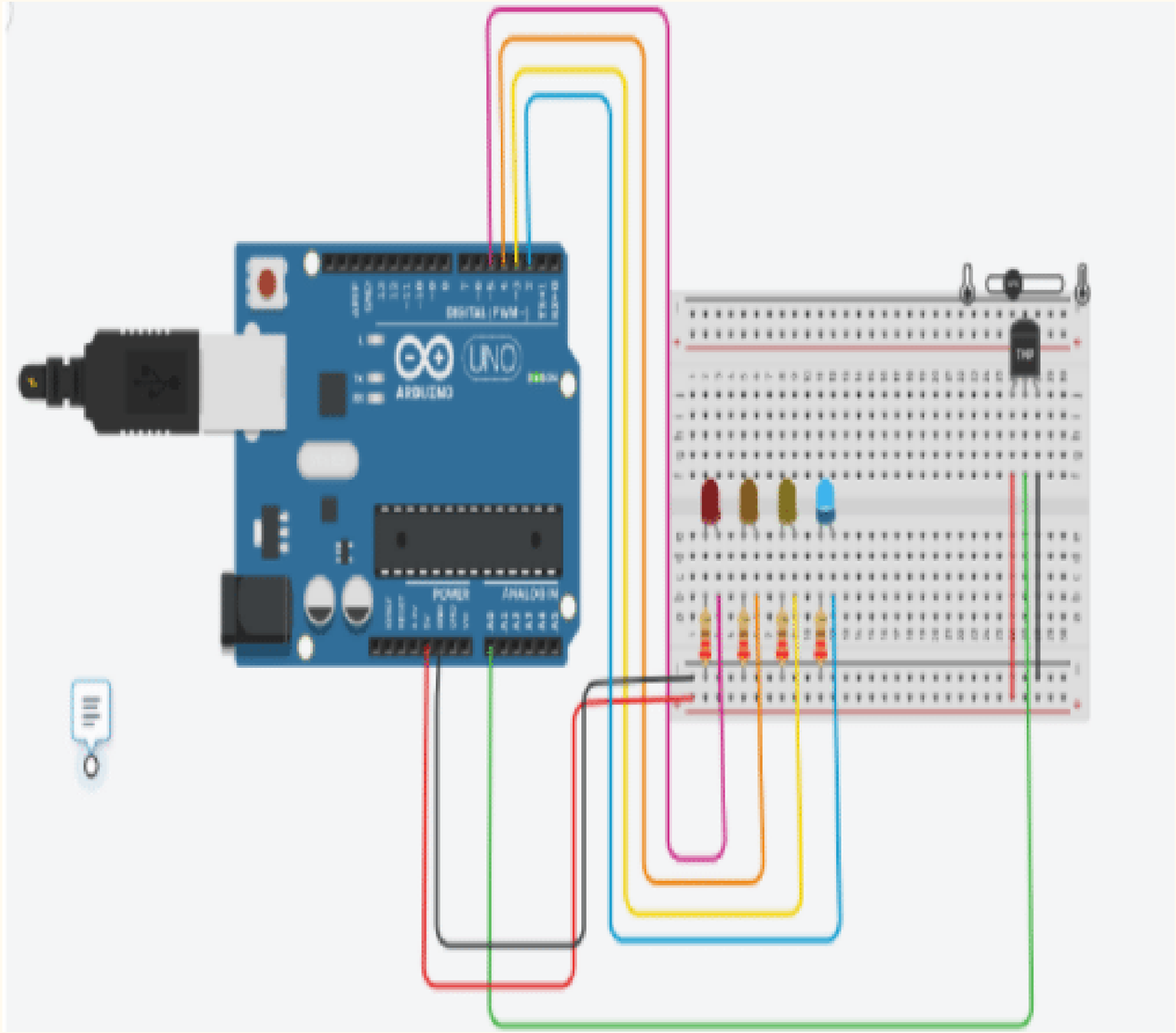
If the temperature is set at 38 degrees celsius, upon starting the simulation the orange LED glows which indicates that the temperature is high.

CASE 4

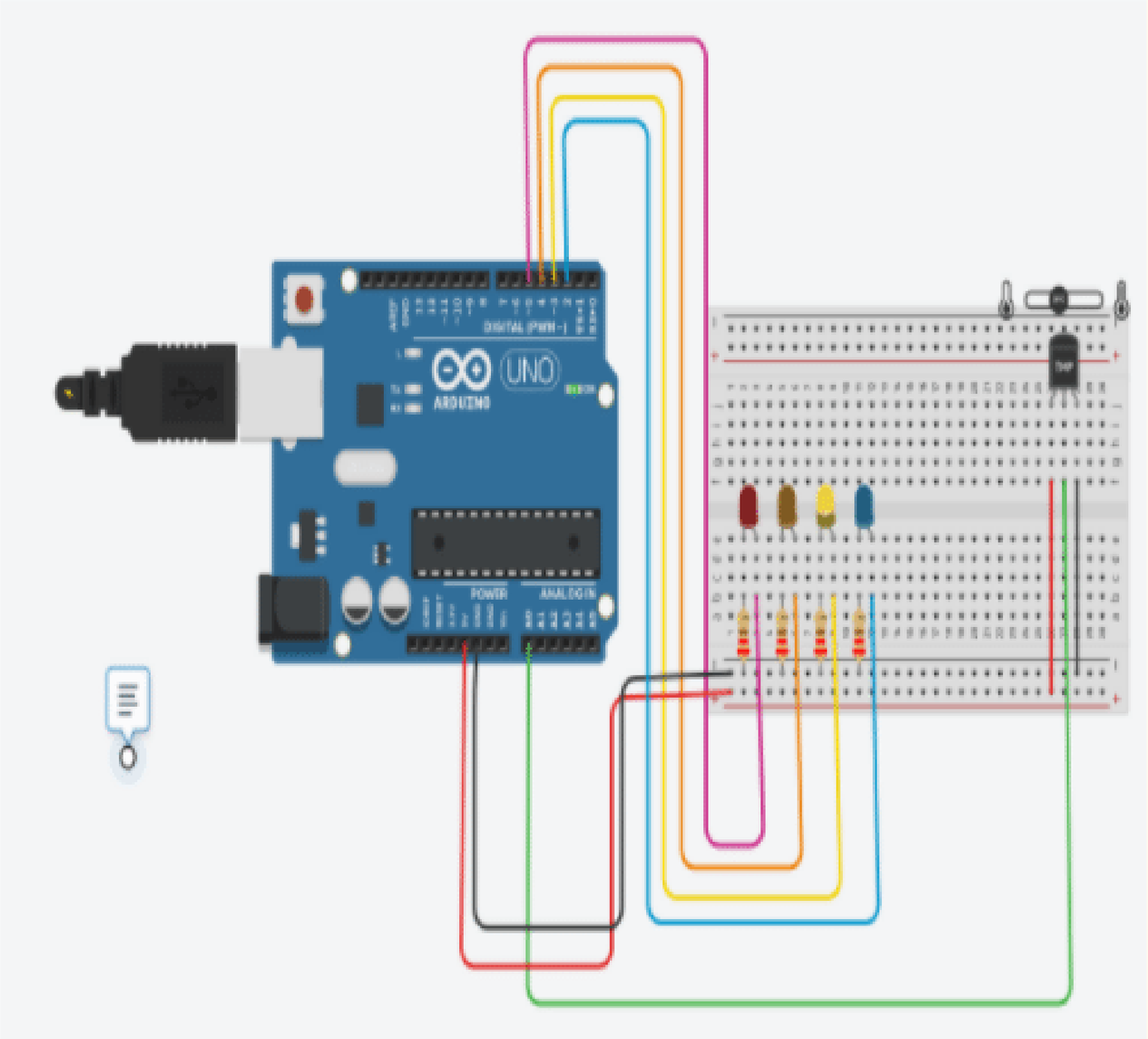
If the temperature is set at 49 degrees celsius, upon starting the simulation the red LED glows which indicates that the temperature is extremely high.



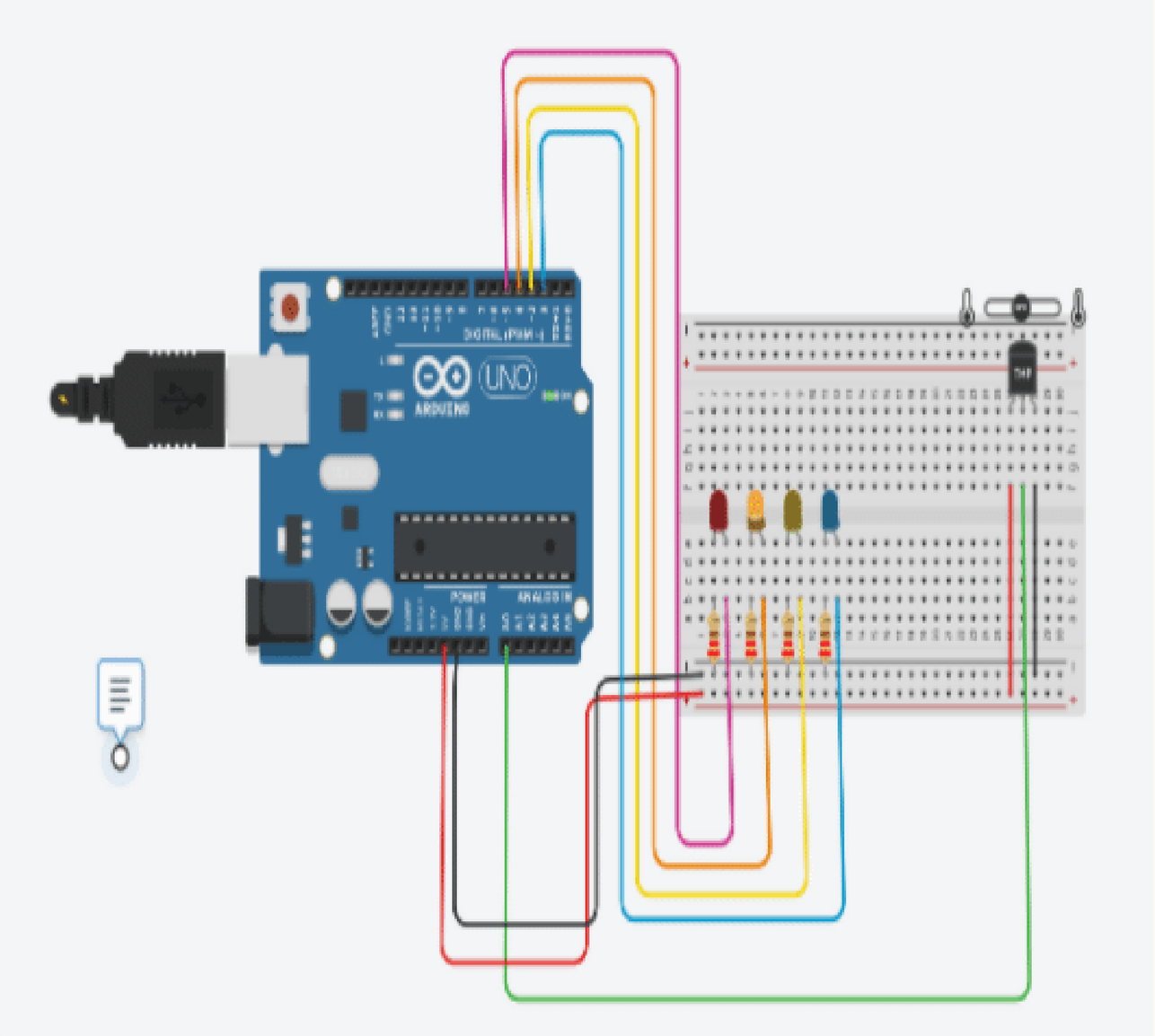
OUTPUT-CASE 1



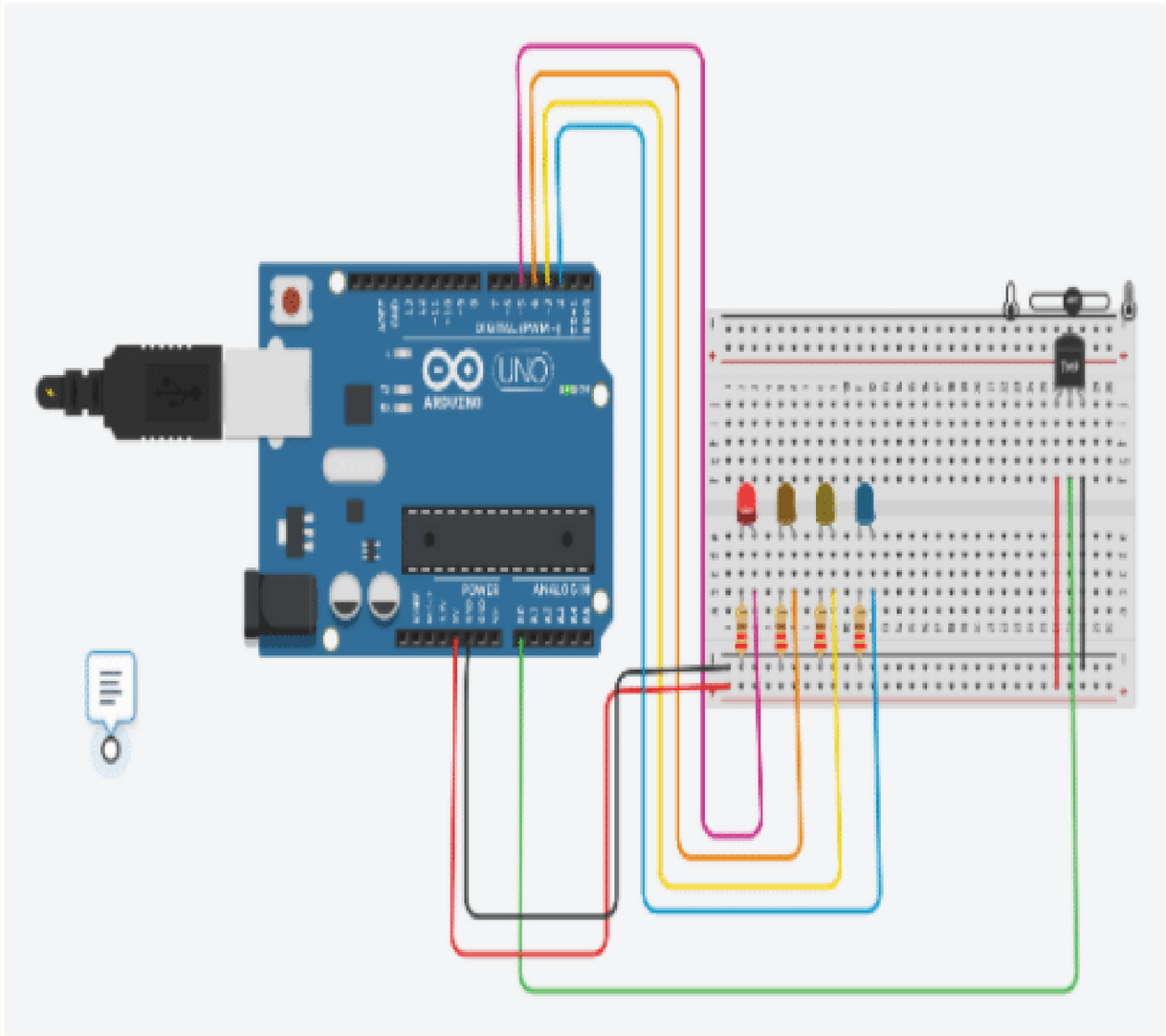
OUTPUT-CASE 2



OUTPUT-CASE 3



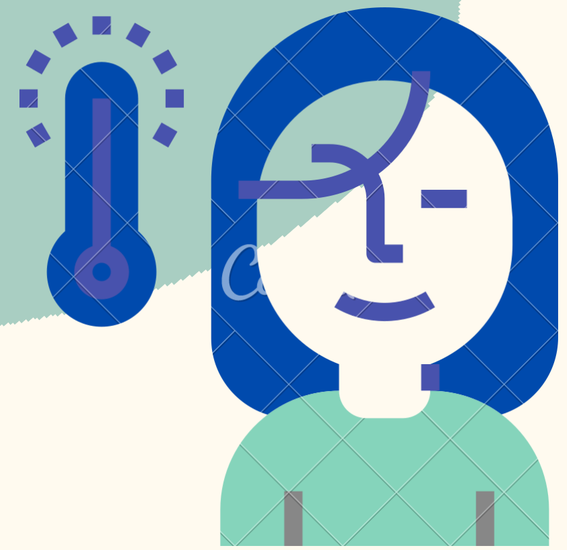
OUTPUT-CASE 4



Real-life application

The project successfully makes use of the idea of using an Arduino sensor and 4 LEDs to detect room temperature with a distinct visual representation of the current room temperature.

This proves to be an effective method to detect and change the room temperature according to the user's comfort.



References

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Presentation created using Canva

Thank you!