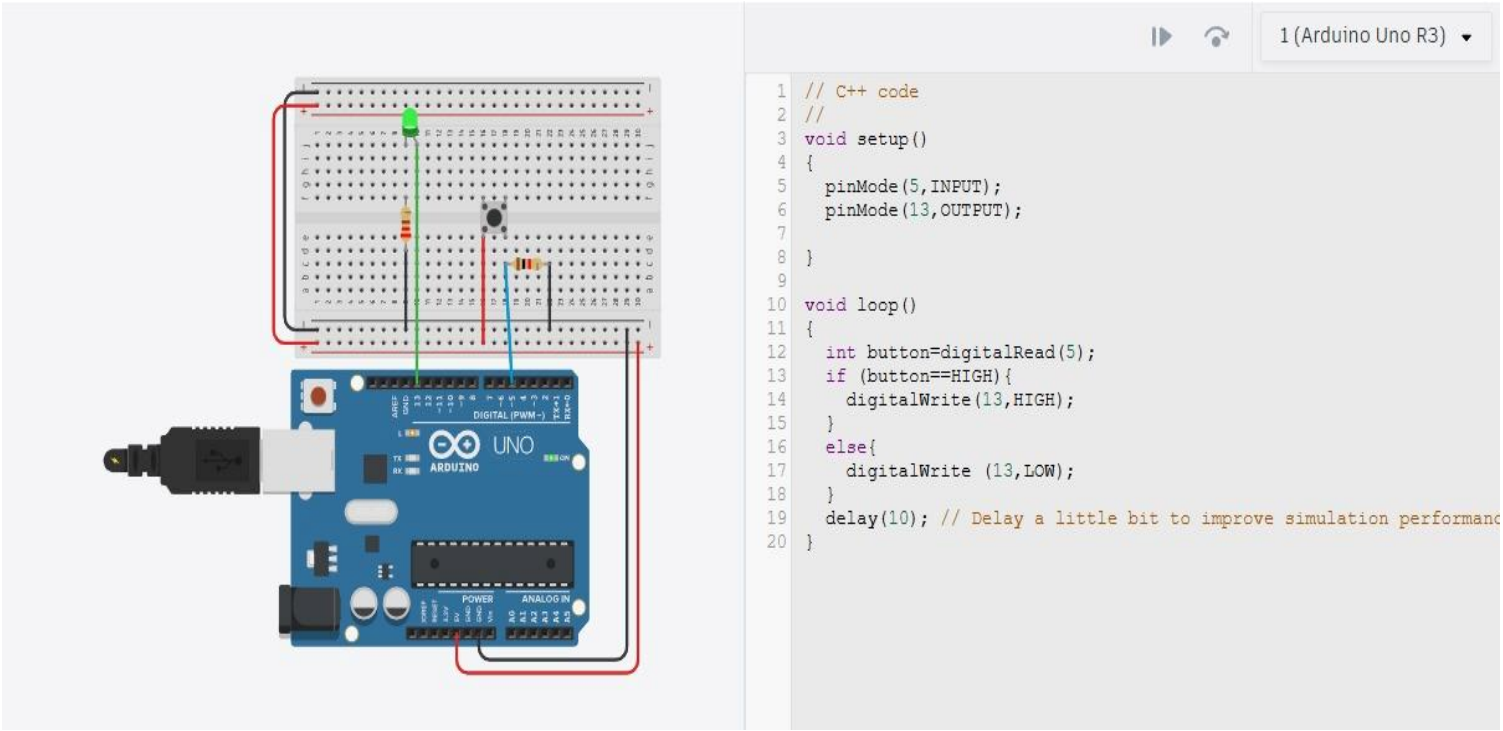
EXPERIMENT 3

AIM – To interface Push button/Digital sensor (IR/LDR) with Arduino/Raspberry Pi and write a program to turn ON LED when push button is pressed or at sensor detection.

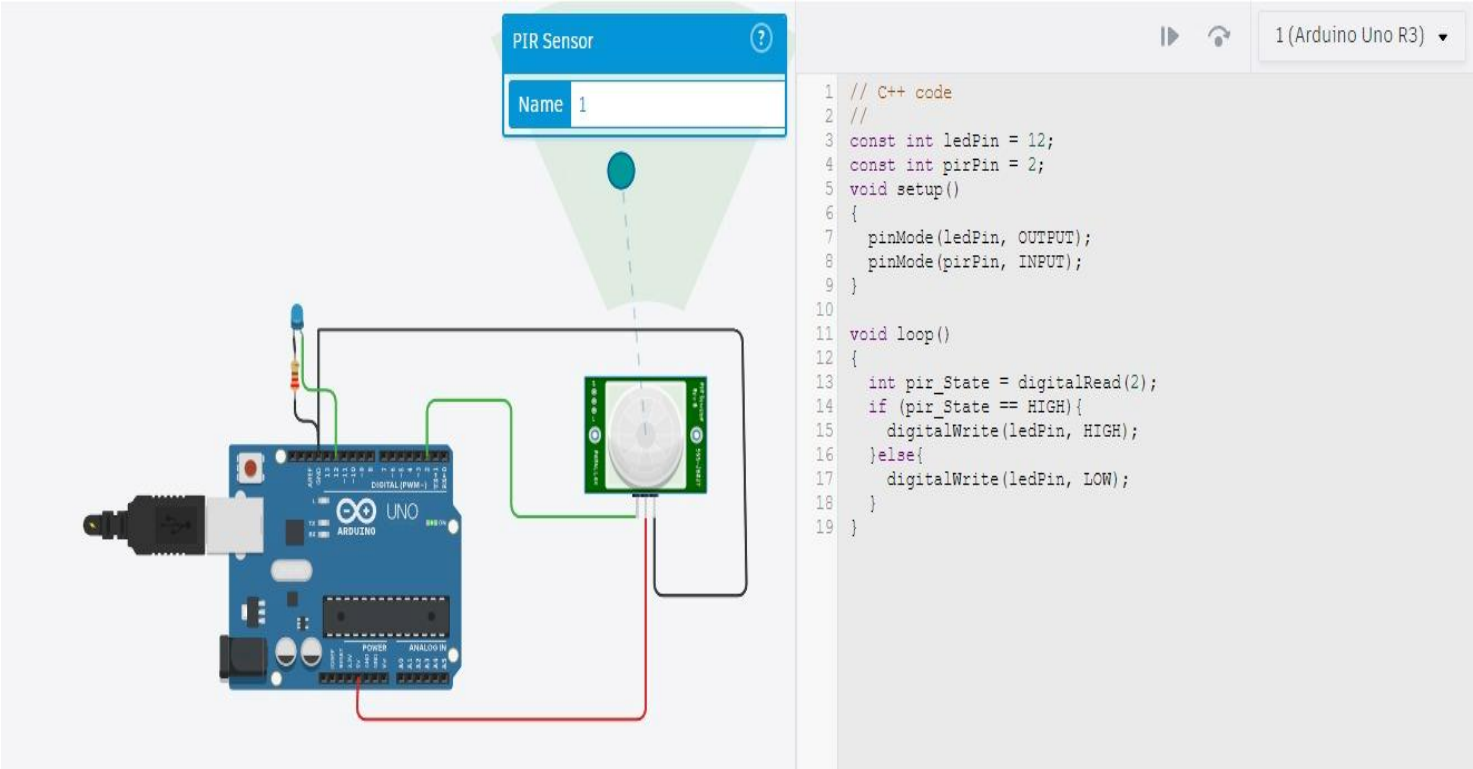
THEORY – The Arduino and Raspberry Pi platforms are widely utilized in electronics and programming due to their accessibility and support for a broad range of sensors and modules. This experiment focuses on interfacing a push button or a digital sensor (such as IR or LDR) with an Arduino or Raspberry Pi to control an LED.

The circuit setup involves connecting the push button or digital sensor to a designated digital input pin and the LED to a digital output pin on the microcontroller or microprocessor. A push button or sensor detects input events—such as a physical press or changes in light intensity—and sends a corresponding signal to the board. The microcontroller processes this signal and activates the LED by enabling current flow in the forward direction.

TO SIMULATE A LED WHEN PUSH BUTTON IS PRESSED



TO SIMULATE A LED AT SENSOR DETECTION



OUTPUT: The LED is turned on successfully, using both the Push Button and the Digital Sensor (IR/LDR).