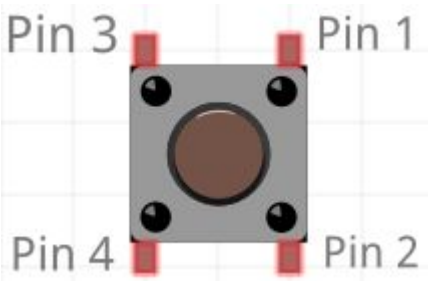
Momentary Switch
(Technical Note)

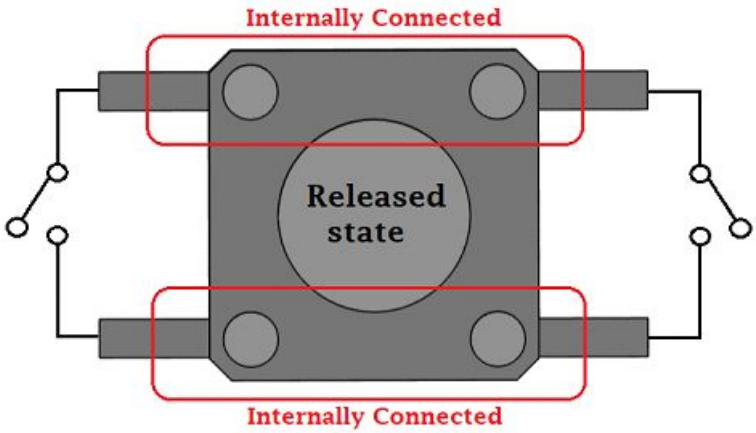
What is Momentary Switch?



A momentary switch is a switch which only remains in its on state as long as it is being actuated (for example, pressed, held, magnetized, etc.). The terminals will be electrically connected when the button is pressed. It turns off when the button is released.

Scientific Fact and Applications

Amongst many different types of switches, a toggle switch is a simple ON/OFF button. It consists of two contacts, one of which is fixed and the other one is movable. Under initial conditions, the switch is not pressed and the circuit is said to be disconnected or open (NO: Normally Open). When a user presses the surface, the two contacts touch each other and complete the circuit, closing the circuit. This is how a toggle switch can be employed in a circuit.



Applications

Switching circuits

Toggle switches can be used in the telecommunication system for switching purposes. Whenever a particular condition is met, the switch toggles its state and facilitate the required operation.

Headlight in aeroplanes and auto-mobile

Toggle switches are used in the headlight system due to its easy mechanism and operation. As the driver wants to light up the headlight, it just presses the button which completes the internal circuitry and light up.

References:

1. https://components101.com/switches/push-button

Momentary Switch
(Application Note)

Project

Turn off/ turn on an LED when the button is pressed each time. Convert momentary button press to toggle the output LED.

Procedure

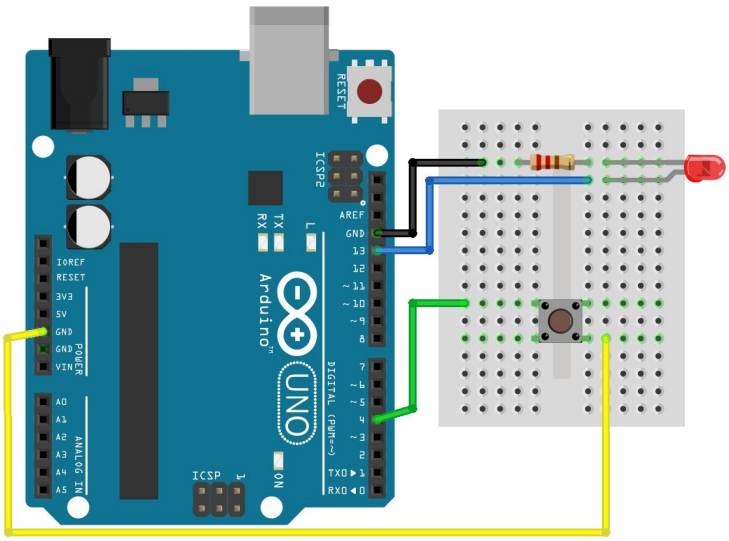
Switch

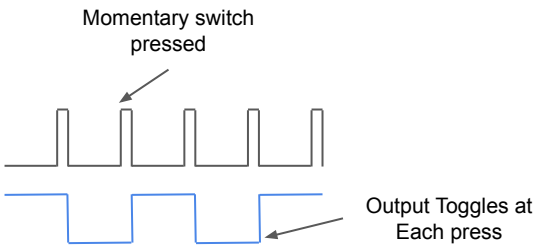
- Connect the push button as shown in schematic below.

LED

- Connect **cathode (shorter leg)** to **GND** of Arduino
- Connect **anode (longer leg)** to **pin 13** of Arduino

Schematic and Logic





Challenge Yourself

1. Create a click counter.
2. Design a door bell using toggle switch and speaker.

Components Required

Component	Part No.	Qty
Arduino UNO	EMX-00001-A	1
Tactile Button	EDM-00009-A	1
LED	EDD-00002-A	1
Resistor - 220Ohm	EDR-00001-220Z	1

Code

```
/* Set Arduino Pin to toggle LED status
with each push of the momentary switch*/
int led = 13;
int button = 4;
/*Set initiate states for Led and Push
Button*/
int ledState = LOW;
int buttonCurrent;
int buttonPrevious = HIGH;

void setup(){
  pinMode(button, INPUT_PULLUP);
  pinMode(led, OUTPUT);
  Serial.begin(9600);
}

void loop() {
  /* Read state from Push Button*/
  buttonCurrent = digitalRead(button);
/* Maintain Led State after each press on
Push Button*/
  if (buttonCurrent == HIGH &&
buttonPrevious == LOW)
  {
    if (ledState == HIGH)
    {
      ledState = LOW;
    }
    else
    {
      ledState = HIGH;
    }
   }
 Serial.println(buttonCurrent);
 /* Set current Push Button State as
previous state for next round of
comparison*/
 buttonPrevious = buttonCurrent;
  /* Turn on or Turn off Led*/
 digitalWrite(led, ledState);
 delay(200);
}
```