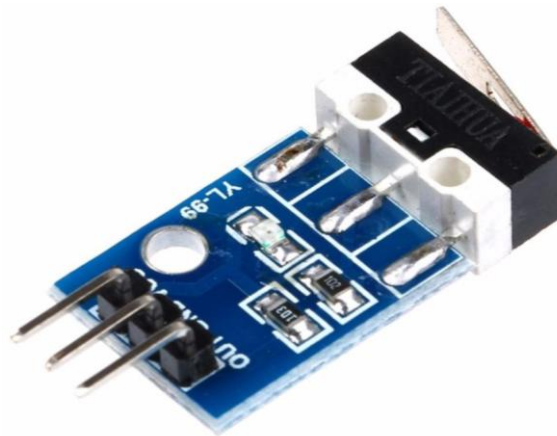## Collision Limit Switch For Arduino & Raspberry Pi

Introduction:

A miniature snap-action switch, also trademarked and frequently known as a micro switch, is an electric switch that is actuated by very little physical force. Micro switches are very widely used; among their applications are appliances, machinery, industrial controls, vehicles, and many other places for control of electrical circuits. They are usually rated to carry current in control circuits only, although some switches can be directly used to control small motors, solenoids, lamps, or other devices.

This is a small micro switch sensor designed for the Arduino micro controller. It could be directly connected to the IO Expansion shield. It integrates the pull-up resistor and the status indicator LED onboard. This makes it easier for testing and integration. The miniature snap-action micro switch with roller lever makes it suitable for more different environment application and can be applied to any imaginative project you can think of!

Objective:

1. To make a limit switch as a sensor and detect the crash.
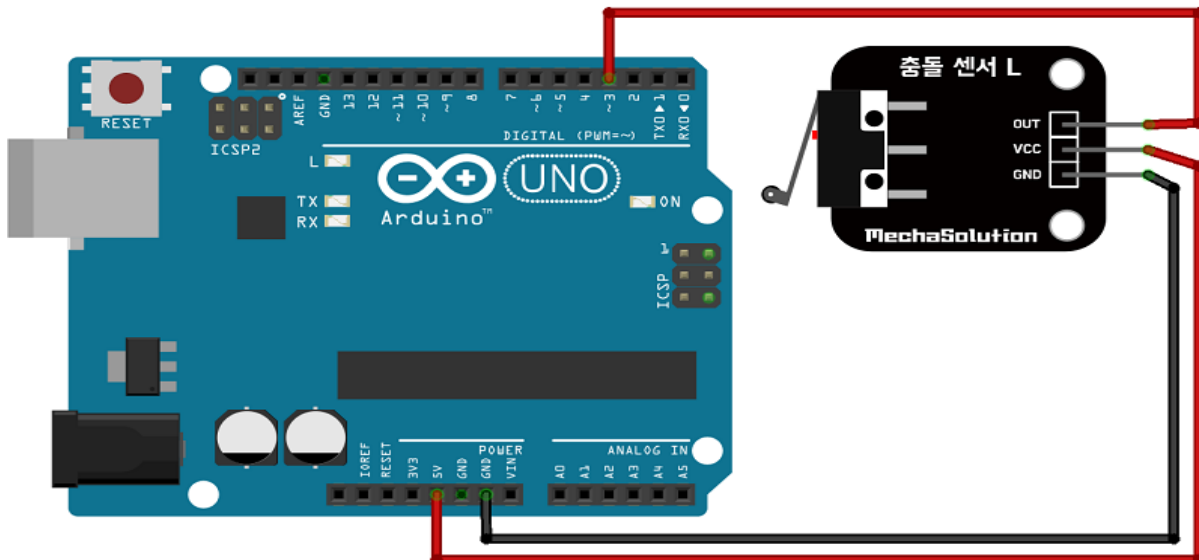
Components:

- Arduino Uno Board
- Collision Limit Switch For Arduino & Raspberry Pi
- USB Cable

Procedures:

Step 1: Build the circuit.

The connection between the Collision Limit Switch For Arduino & Raspberry Pi and the Arduino Uno Board:

Collision Limit Switch For Arduino & Raspberry Pi	Arduino Uno Board
VCC	5V
GND	GND
OUT	PIN ~3

Step 2: Insert the sample programming provided below by copy and paste it into Arduino IDE.
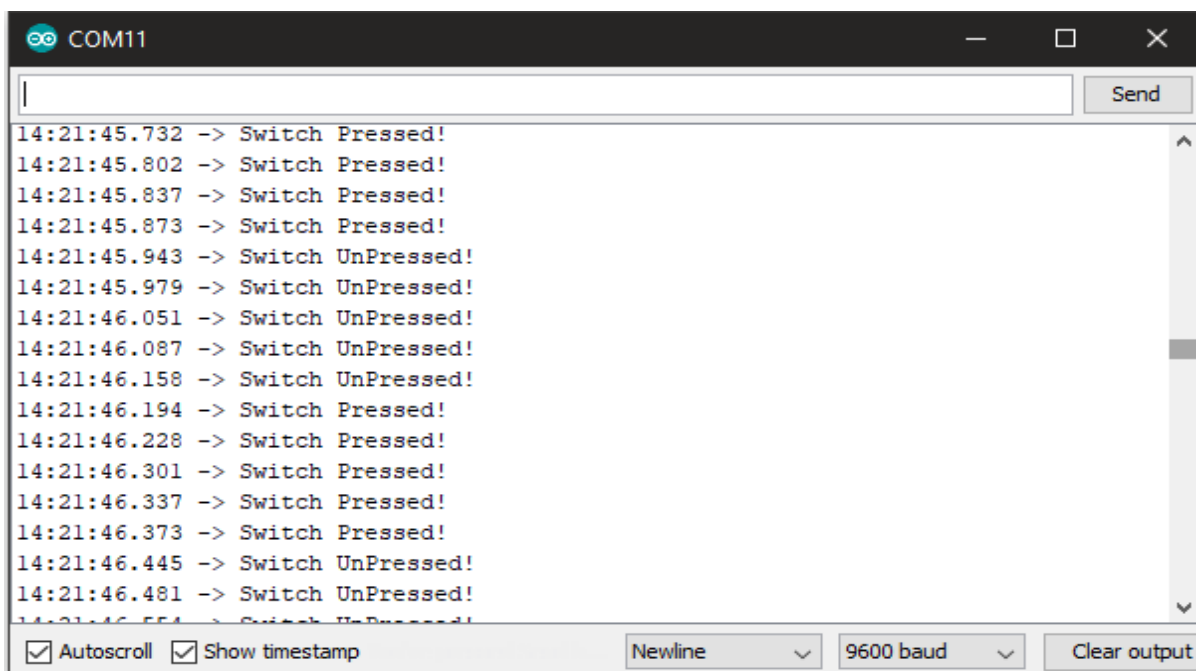
```
int ledPin = 13;          // choose the pin for the LED
int inputPin = 3;         // Connect sensor to input pin 3



void setup() {
  Serial.begin(9600);      // Init the serial port
```

```
 pinMode(ledPin, OUTPUT);      // declare LED as output
 pinMode(inputPin, INPUT);     // declare Micro switch as input
}


void loop(){
 int val = digitalRead(inputPin);  // read input value
 if (val == HIGH) {              // check if the input is HIGH
   digitalWrite(ledPin, LOW); // turn LED OFF
   Serial.println("Switch UnPressed!");
 } else {
   digitalWrite(ledPin, HIGH);    // turn LED ON
   Serial.println("Switch Pressed!");
 }
 delay(50);
}
```

Step 3: Open the serial monitor to observe the result as shown below.