```
#define Relay 13
#define buzzer A0
static const int sensorPin = 10;
int SensorStatePrevious = LOW;
                                                   // previousstate of the
unsigned long minSensorDuration = 3000; // Time we wait before the sensor
active as long
unsigned long minSensorDuration2 = 6000;
unsigned long SensorLongMillis;
                                             // Time in ms when the sensor
was active
bool SensorStateLongTime = false;
                                                  // True if it is a long
active
const int intervalSensor = 50;
                                                  // Time between two
readings sensor state
unsigned long previousSensorMillis;
                                                  // Timestamp of the latest
reading
unsigned long SensorOutDuration;
                                               // Time the sensor is active
//// GENERAL ////
unsigned long currentMillis;
milleseconds since the Arduino has started
void setup() {
 Serial.begin(9600);
 pinMode(sensorPin, INPUT);
                                    // set sensorPin as input
 Serial.println("Press button");
 pinMode(Relay,OUTPUT);
 pinMode(buzzer,OUTPUT);
// Function for reading the sensor state
void readSensorState() {
 // If the difference in time between the previous reading is larger than
intervalsensor
 if(currentMillis - previousSensorMillis > intervalSensor) {
   // Read the digital value of the sensor (LOW/HIGH)
   int SensorState = digitalRead(sensorPin);
    // If the sensor wasn't activated before AND
```

```
// IF there was not already a measurement running to determine how long
the sensor has been activated
    if (SensorState == LOW && SensorStatePrevious == HIGH &&
!SensorStateLongTime) {
     SensorLongMillis = currentMillis;
       SensorStatePrevious = LOW;
      Serial.println("Button pressed");
    // Calculate how long the sensor has been activated
   SensorOutDuration = currentMillis - SensorLongMillis;
    // If the button is active AND
    // If there is no measurement running to determine how long the sensor is
active AND
    // If the time the sensor has been activated is larger or equal to the
time needed for a long active
    if (SensorState == LOW && !SensorStateLongTime && SensorOutDuration >=
minSensorDuration) {
      SensorStateLongTime = true;
      digitalWrite(Relay,HIGH);
      Serial.println("Button long pressed");
    if (SensorState == LOW && SensorStateLongTime && SensorOutDuration >=
minSensorDuration2) {
     SensorStateLongTime = true;
      digitalWrite(buzzer, HIGH);
     delay(1000);
      Serial.println("Button long pressed");
    // If the sensor is released AND
    // If the sensor was activated before
    if (SensorState == HIGH && SensorStatePrevious == LOW) {
      SensorStatePrevious = HIGH;
      SensorStateLongTime = false;
      digitalWrite(Relay,LOW);
      digitalWrite(buzzer,LOW);
      Serial.println("Button released");
    // store the current timestamp in previousSensorMillis
   previousSensorMillis = currentMillis;
```

```
void loop() {

currentMillis = millis();  // store the current time
readSensorState();  // read the sensor state
}
```

Code to Be Run in Arduino uno Ide.