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1  /**
2   Coin Action - Mission Possible MK2
3   Ward Melville HS Science Olympiad - Team A - 2017-2018
4   coinTiny.ino
5   Purpose: Triggers the next action based on the input from an NPN inductive probe.
6
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8   @version 1.1 1/23/2018
9  */
10
11 // Definitions for microcontroller pin numbers
12 const int PROBE_PIN = 2;
13 const int OUT_PIN = 4;
14
15 // Variables for states of the pins
16 bool probeState = HIGH;
17 bool outState = LOW;
18
19 // Variables and constants for the debounce code
20 unsigned int counter = 0;
21 const int DEBOUNCE_COUNT = 50;
22 long time = 0;
23
24 void setup() {
25   // Set the microcontroller pins as either inputs or outputs
26   pinMode(PROBE_PIN, INPUT);
27   pinMode(OUT_PIN, OUTPUT);
28
29   // Set the output pin to low
30   digitalWrite(OUT_PIN, LOW); // Write the output pin to LOW
31 }
32
33 void loop() {
34   if(millis() != time && outState == LOW) { // If more than one millisecond has elapsed
35     // since the last loop...
36     probeState = digitalRead(PROBE_PIN); // Read the current state of the probe and store it
37
38     if(probeState == LOW) { // If the state of the probe is low (quarter is present)...
39       counter++; // Increment the counter
40     }
41     else { // Otherwise...
42       counter = 0; // Reset the counter
43     }
44     if(counter >= DEBOUNCE_COUNT) { // If the counter is greater than the debounce
45       // threshold...
46       counter = 0; // Reset the counter
47       outState = HIGH; // Set the trigger state to high
48       digitalWrite(OUT_PIN, outState); // Set the output pin to the trigger state
49     }
50     time = millis(); // Record the current time in milliseconds
51   }
52 }
```