

The original code (which was referenced for my version) was created by: Jason Jassal

```
#include <TM1637Display.h>
#define CLK_PIN 4
#define DIO_PIN 6
TM1637Display display(CLK_PIN, DIO_PIN);
const int ledPins[7] = {11, 12, 10, 8, 13, 7, 9};
const int buttonPin = 2;
int score = 0;
int target = 0;
bool shown = false;
void setup() {
  Serial.begin(9600);
  for (int i = 0; i < 7; i++) pinMode(ledPins[i], INPUT);
  pinMode(buttonPin, INPUT);
  display.setBrightness(7);
  display.clear();
  randomSeed(analogRead(0));
  newTarget();
  showScore();
}
void loop() {
```

```
if (!shown) {
  Serial.print("Target: ");
  Serial.println(targetName());
  shown = true;
}
if (buttonPressedStable()) {
  int active = getActiveLED();
  bool correct = (active != -1) && isCorrect(active);
  if (correct) {
    score++;
    Serial.println("Correct!");
    showScore();
    correctCelebration();
  } else {
    score--;
    Serial.println("Wrong!");
    showScore();
    delay(250);
  }
  if (score >= 10 || score <= -10) score = 0;
  Serial.print("Score: ");
  Serial.println(score);
  showScore();
}
```

```
newTarget();  
}  
}  
void newTarget() {  
  target = random(0, 3);  
  shown = false;  
}  
String targetName() {  
  if (target == 0) return "Red";  
  if (target == 1) return "Yellow";  
  return "Green";  
}  
int getActiveLED() {  
  for (int i = 0; i < 7; i++) {  
    if (digitalRead(ledPins[i]) == HIGH) return i;  
  }  
  return -1;  
}  
bool isCorrect(int i) {  
  if (target == 0) return (i == 0 || i == 3 || i == 6);  
  if (target == 1) return (i == 1 || i == 4);  
  return (i == 2 || i == 5);  
}
```

```
bool buttonPressedStable() {
    if (digitalRead(buttonPin) != LOW) return false;
    delay(30);
    if (digitalRead(buttonPin) != LOW) return false;
    while (digitalRead(buttonPin) == LOW) {
        delay(5);
    }
    return true;
}

void showScore() {
    int val = abs(score);
    if (val > 9) val = 9;
    uint8_t segs[4] = {0, 0, 0, 0};
    if (score < 0) segs[0] = 0x40;
    else segs[0] = 0x00; // blank
    segs[1] = display.encodeDigit(val);
    display.setSegments(segs);
}

void correctCelebration() {
    uint8_t allOn[4] = {0x7F, 0x7F, 0x7F, 0x7F};
    uint8_t allOff[4] = {0x00, 0x00, 0x00, 0x00};
    for (int i = 0; i < 4; i++) {
        display.setSegments(allOn);
```

```
delay(120);  
display.setSegments(allOff);  
delay(120);  
}  
showScore();  
}
```