

```
/* Copy Cat
simple game where three LED lights light up at a random pattern and the player
must copy the pattern by pushing the corresponding buttons. Every time the
player gets the pattern right a point is added to the score and the next
light pattern has an added character.
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*/
```

```
int score = 0; //player's score initialized to 0
int maxim = 3; //max number of lights in pattern
```

```
//LED pins
int led1 = 13;
int led2 = 12;
int led3 = 11;
```

```
//button pins
int button1 = 2;
int button2 = 1;
int button3 = 0;
```

```
// the setup routine runs once when you press reset:
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```
void setup() {
  // initialize the LED pins as outputs
  pinMode(led1, OUTPUT);
  pinMode(led2, OUTPUT);
  pinMode(led3, OUTPUT);
```

```
  //print score
  Serial.begin(9600);
  Serial.println(score);
}
```

```
// the loop routine runs over and over again forever:
```

```
void loop() {
  String lightPattern = ""; //random light up pattern

  int var = 0;
  //create pattern
  while(var < maxim){
    int light = round(random(1,4)); //what light to turn on
    lightPattern = lightPattern + String(light); //remember the pattern
    if (light == 1) {
      digitalWrite(led1, HIGH); // turn the LED1 on
      delay(1000);
      digitalWrite(led1, LOW); // turn the LED1 off
    }
  }
}
```

```

if (light == 2) {
  digitalWrite(led2, HIGH); // turn the LED2 on
  delay(1000);
  digitalWrite(led2, LOW); // turn the LED2 off
}
if (light == 3) {
  digitalWrite(led3, HIGH); // turn the LED3 on
  delay(1000);
  digitalWrite(led3, LOW); // turn the LED3 off
}
delay(1000); //delay for 1 s
var++;
}

```

```
String buttonPattern = ""; //the button pattern
```

```
Serial.print("button pattern : ");
```

```

int pushes = 0;
//check if player inputted pattern correctly
while (pushes < maxim) {
  if (analogRead(button1) > 900) {
    buttonPattern = buttonPattern + "1";
    pushes++;
    Serial.print("1"); //print button pattern
    delay(500);
  }
  if (analogRead(button2) > 900) {
    buttonPattern = buttonPattern + "2";
    pushes++;
    Serial.print("2"); //print button pattern
    delay(500);
  }
  if (analogRead(button3) > 900) {
    buttonPattern = buttonPattern + "3";
    pushes++;
    Serial.print("3"); //print button pattern
    delay(500);
  }
}

if (buttonPattern == lightPattern) {
  score++;
  maxim++;
}

```

```
//print patterns and score
Serial.println("");
Serial.print("light pattern : ");
Serial.println(lightPattern);
Serial.print("score : ");
Serial.println(score);

}
```