**Basic Challenge Requirements (Level 1 to Level 2)**

1. Write an Arduino program that contains the required “Setup” and “Loop” procedures.
2. Define an integer variable to hold the pin position for an external “red” LED
3. Define an integer variable to hold the pin position for an external “green” LED
4. Add code to blink the “red” LED for one second and then blink the “green” LED for one second.
5. Cut and copy your program code below this line and submit to your GitHub repository.

int ledred = "13";

int ledgreen = "12";

void setup()

{

pinMode(13, OUTPUT);

pinMode(12, OUTPUT);

}

void loop()

{

digitalWrite(13, HIGH);

digitalWrite(12, LOW);

delay(1000);

digitalWrite(13, LOW);

digitalWrite(12, HIGH);

delay(1000);

}

**Standard Challenge Requirements (Level 3)**

1. Modify your program to read and write character strings from the serial monitor.
2. If the user types “red” then run the code to turn on the “red” LED.
   1. Also print “Red LED is On” to the serial monitor.
   2. Also make sure the “green” LED is off.
3. If the user types “green” then run the code to turn on the “green” LED.
   1. Also print “Green LED is On” to the serial monitor.
   2. Also make sure the “red” LED is off.

int ledred = "13";

int ledgreen = "12";

void setup()

{

pinMode(13, OUTPUT);

pinMode(12, OUTPUT);

Serial.begin(9600);

Serial.println("Input red to Turn on 13, green to on 12 and input end to turn off 13 and 12");

}

void loop() {

if (Serial.available())

{

int state = Serial.parseInt();

if (state == 1)

{

pinMode(LED\_BUILTIN, HIGH);

Serial.println("Command completed 12 turned ON");

Serial.println("Command completed 13 turned ON");

}

if (state == 2)

{

pinMode(LED\_BUILTIN, LOW);

Serial.println("Command completed 13 and 12 turned OFF");

}

}

}

1. If the user types something other than “red” or “green” then run the code to turn on both LEDs off.
   1. Also print “Both LEDs are Off” to the serial monitor.
2. Cut and copy your program code below this line and submit to your GitHub repository.

**Enhanced Challenge Requirements (Level 4)**

1. Modify your program to read numbers from the serial monitor.
2. If the number is even then blink the “green” LED the number of times.
3. If the number is odd then blink the “red” LED the number of times.
4. Cut and copy your program code below this line and submit to your GitHub repository.