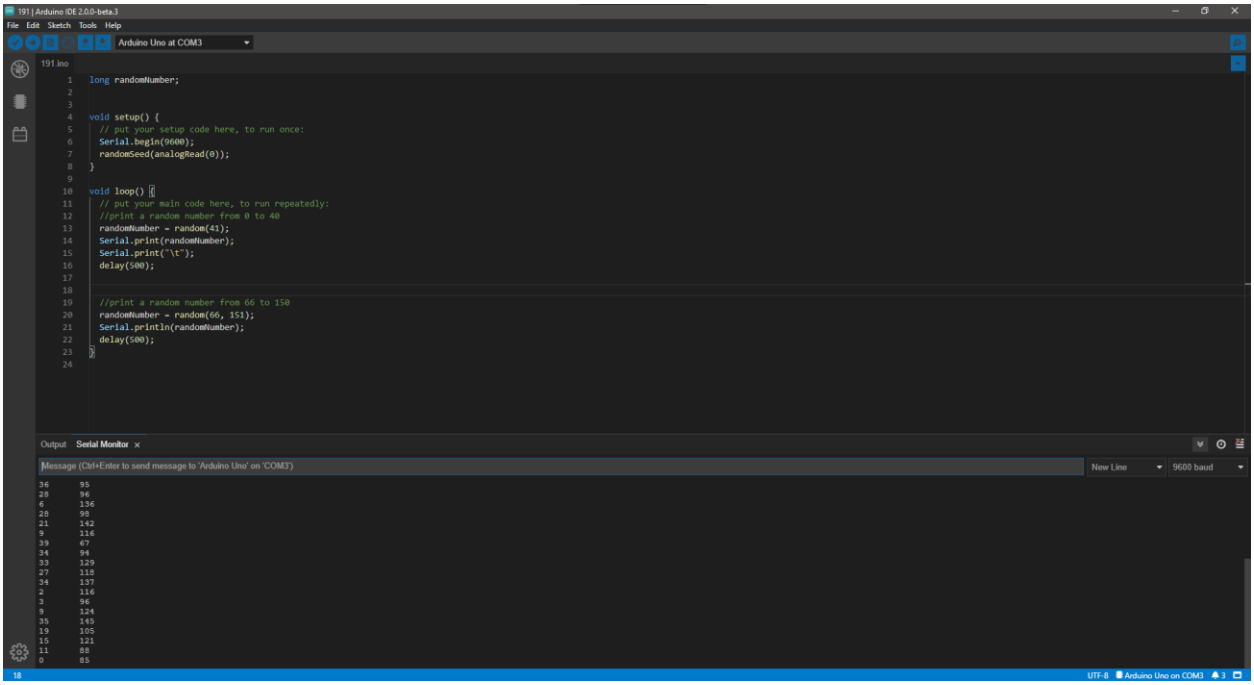
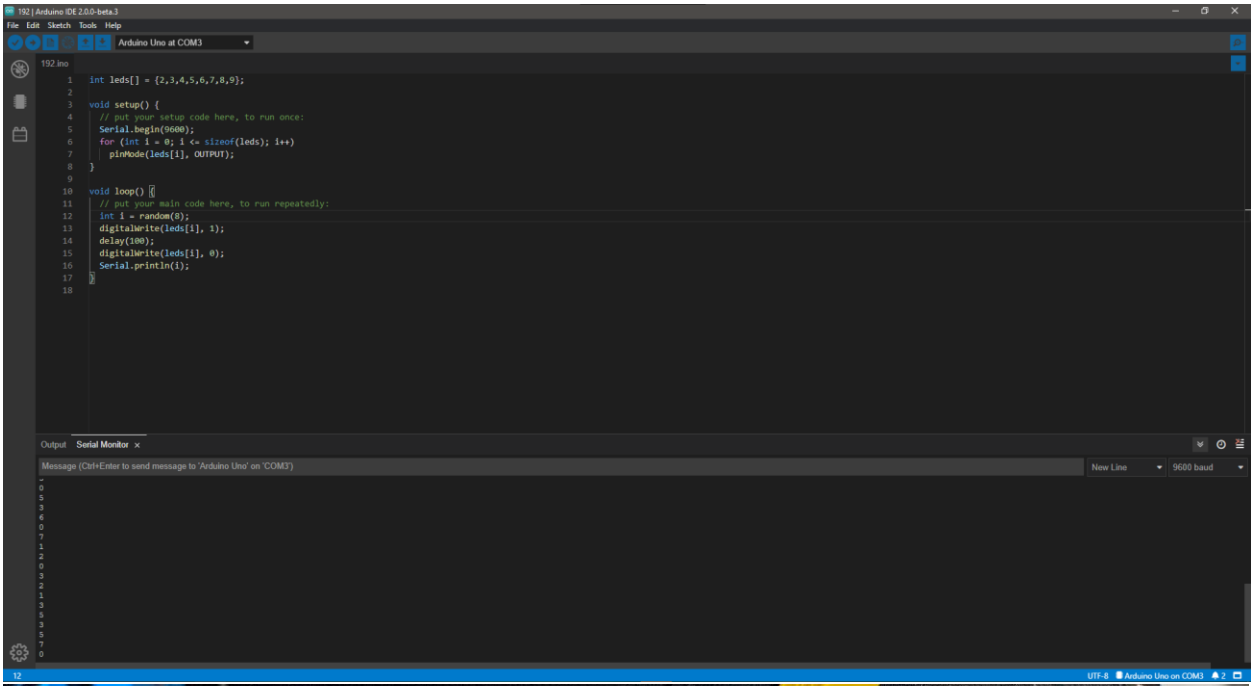
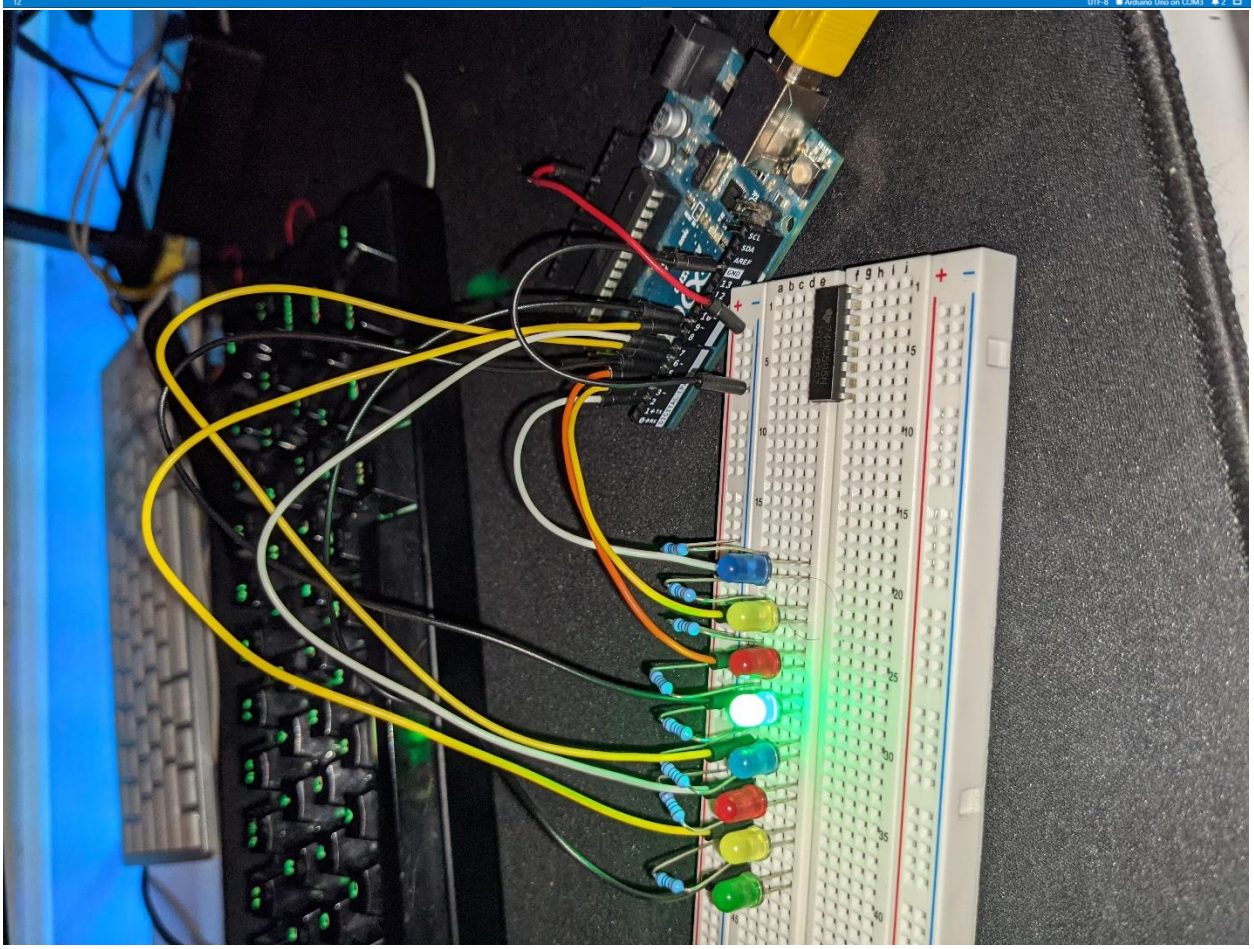
Exercise 1 rory lange

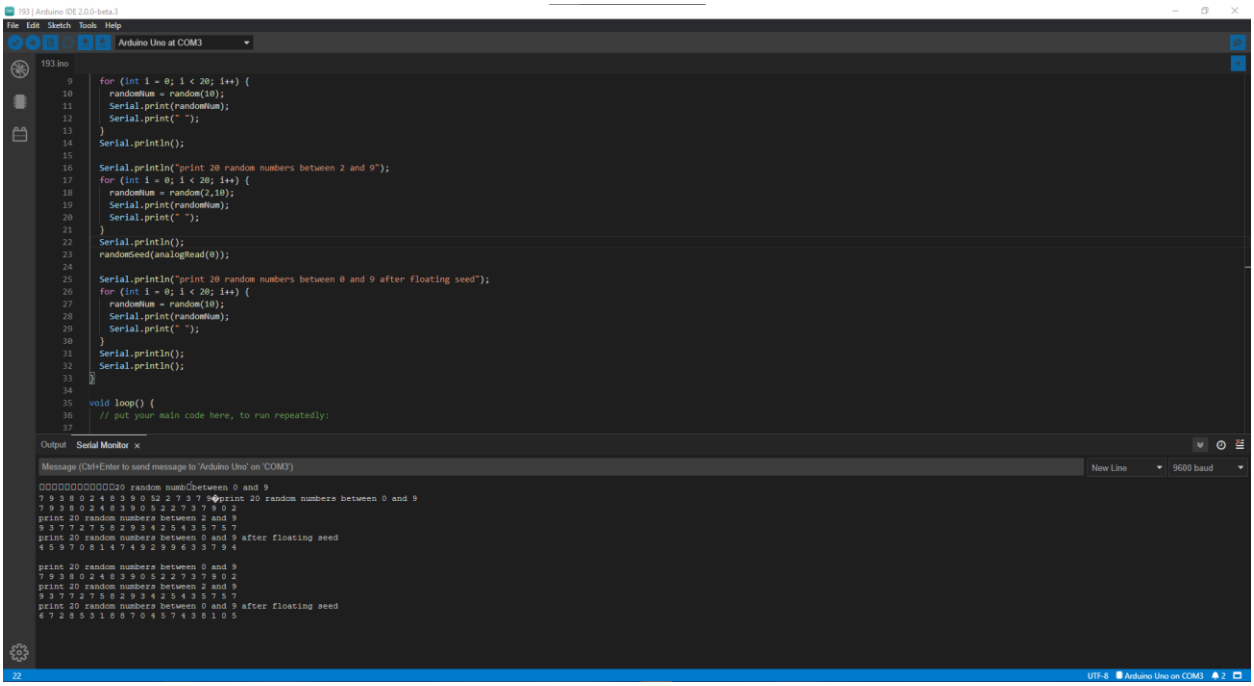


Exercise 2

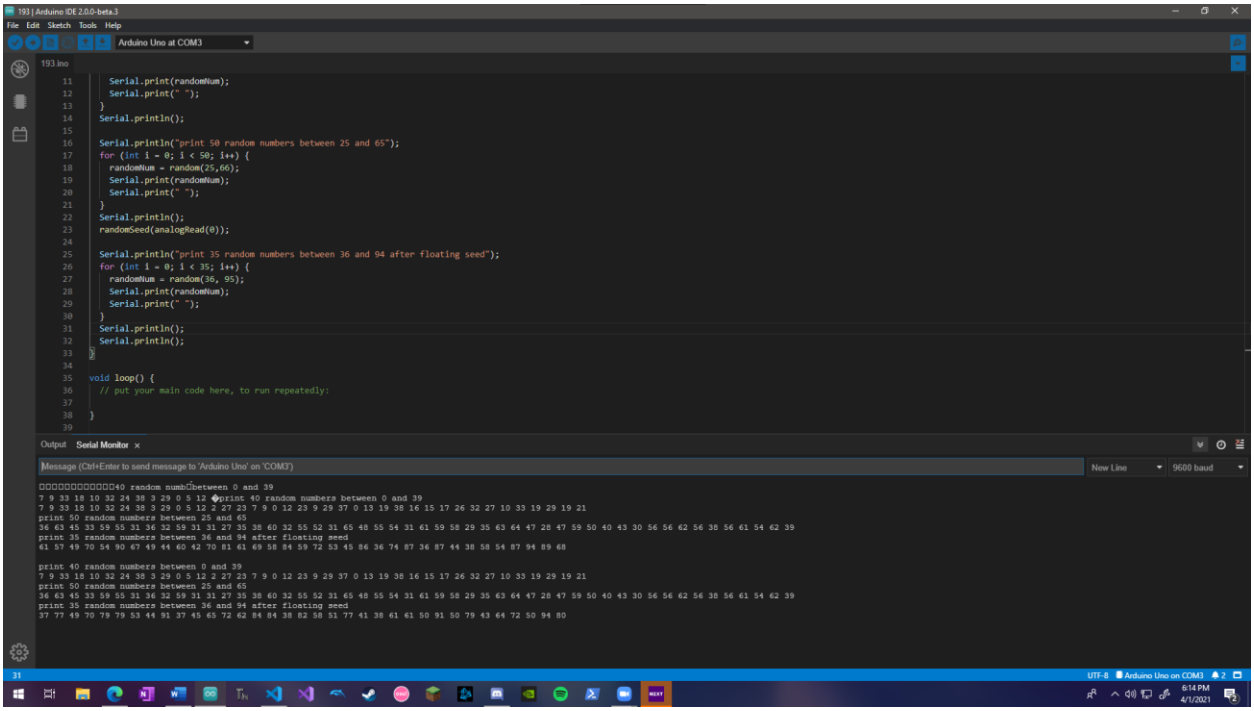

192 | Arduino IDE 2.0.0-beta.3
File Edit Sketch Tools Help
Arduino Uno at COM3
192.ino
int leds[] = {2,3,4,5,6,7,8,9};
void setup() {
// put your setup code here, to run once:
Serial.begin(9600);
for (int i = 0; i <= sizeof(leds); i++)
pinMode(leds[i], OUTPUT);
}
void loop() {
// put your main code here, to run repeatedly:
int i = random(8);
digitalWrite(leds[i], 1);
delay(100);
digitalWrite(leds[i], 0);
Serial.println(i);
}
Output Serial Monitor
Message (Ctrl+Enter to send message to 'Arduino Uno' on 'COM3')
New Line
9600 baud
UTF-8
Arduino Uno on COM3



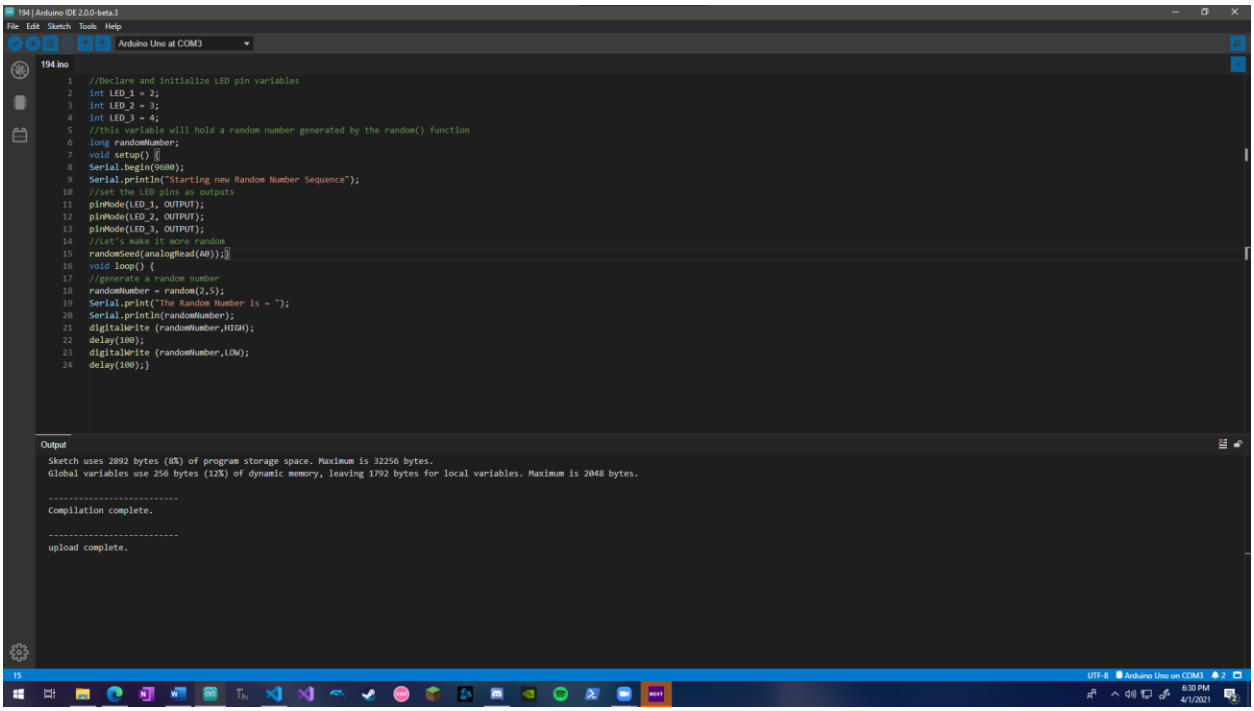
Exercise 3

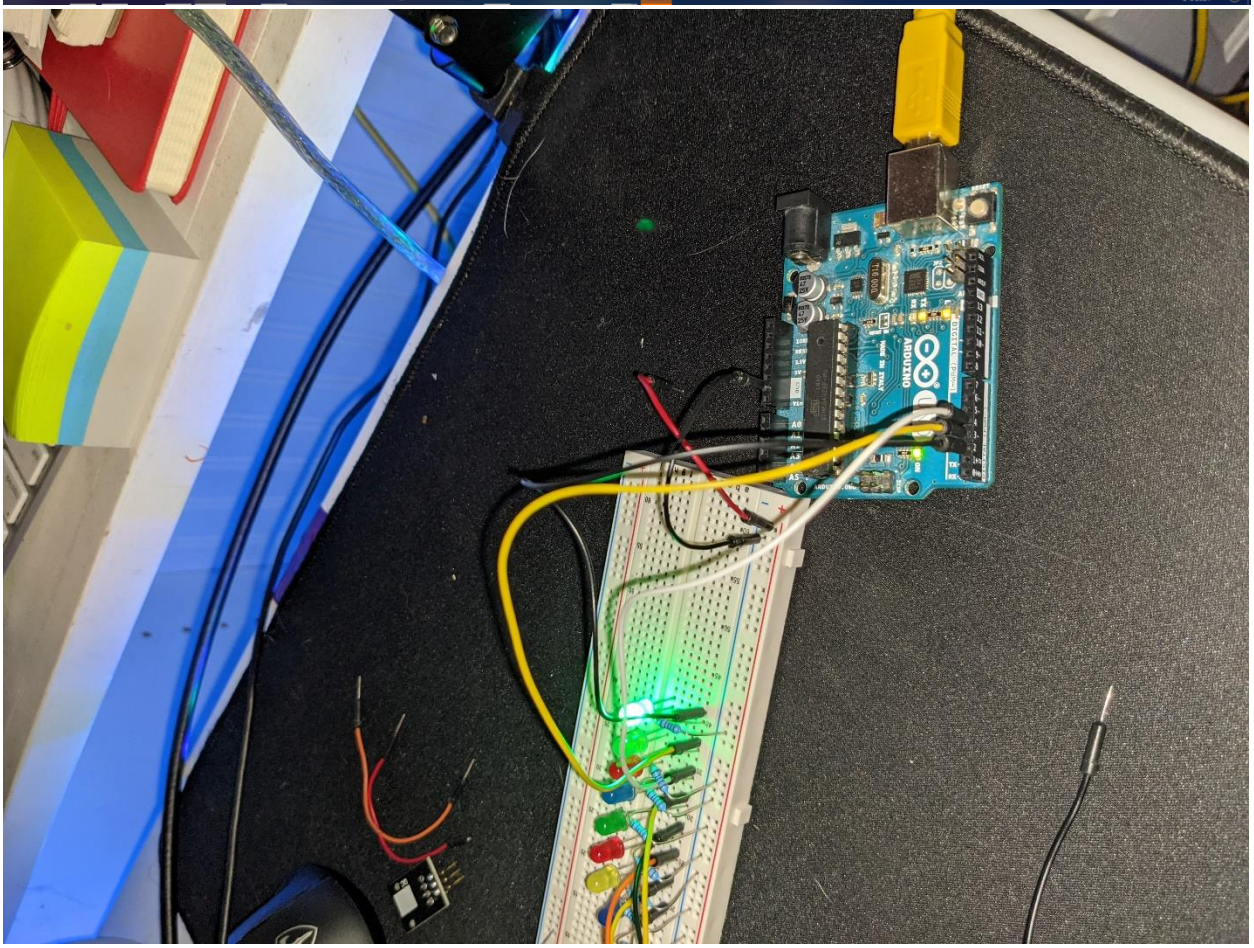


Ex 3 Task 2 and 3

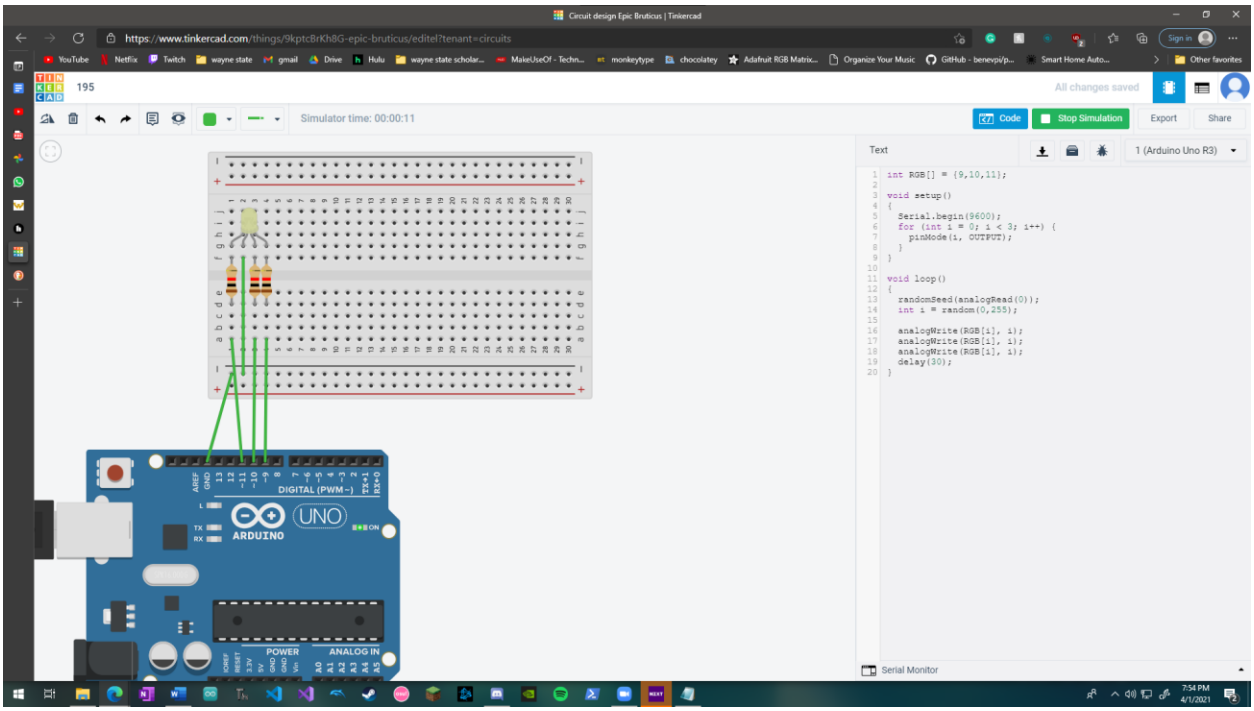


Exercise 4

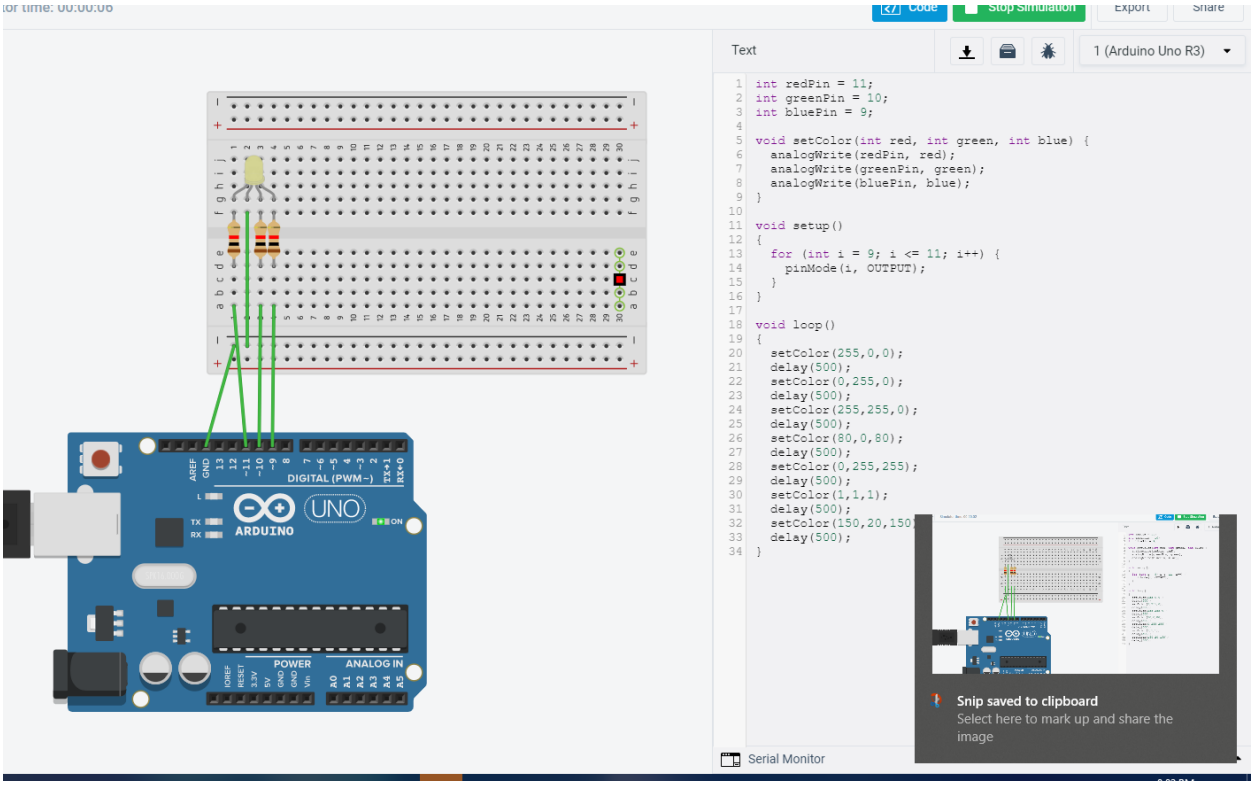

194 | Arduino IDE 2.0.0-beta.3
File Edit Sketch Tools Help
Arduino Uno at COM3
194.ino
//Declare and initialize LED pin variables
int LED_1 = 2;
int LED_2 = 3;
int LED_3 = 4;
//this variable will hold a random number generated by the random() function
long randomNumber;
void setup() {
Serial.begin(9600);
Serial.println("Starting new Random Number Sequence");
//set the LED pins as outputs
pinMode(LED_1, OUTPUT);
pinMode(LED_2, OUTPUT);
pinMode(LED_3, OUTPUT);
//Let's make it more random
randomSeed(analogRead(A0));
void loop() {
//generate a random number
randomNumber = random(2,5);
Serial.print("The Random Number is = ");
Serial.println(randomNumber);
digitalWrite (randomNumber,HIGH);
delay(100);
digitalWrite (randomNumber,LOW);
delay(100);}
Output
Sketch uses 2892 bytes (8%) of program storage space. Maximum is 32256 bytes.
Global variables use 256 bytes (12%) of dynamic memory, leaving 1792 bytes for local variables. Maximum is 2048 bytes.
Compilation complete.
upload complete.
Ln 15
UTF-8
Arduino Uno on COM3
6:30 PM
4/1/2021



Exercise 5


Circuit design Epic Bruticus | Tinkercad
https://www.tinkercad.com/things/9kptcBrKh8G-epic-bruticus/editel?tenant=circuits
Simulator time: 00:00:11
Code
Stop Simulation
Export
Share
Text
1 (Arduino Uno R3)
int RGB[] = {9,10,11};
void setup()
{
Serial.begin(9600);
for (int i = 0; i < 3; i++) {
pinMode(i, OUTPUT);
}
}
void loop()
{
randomSeed(analogRead(0));
int i = random(0,255);
analogWrite(RGB[i], i);
analogWrite(RGB[i], i);
analogWrite(RGB[i], i);
delay(30);
}
Serial Monitor
DIGITAL (PWM~)
ARDUINO
UNO
POWER
ANALOG IN

Exercise 6


Code
Stop Simulation
Export
Share
Text
1 (Arduino Uno R3)
int redPin = 11;
int greenPin = 10;
int bluePin = 9;
void setColor(int red, int green, int blue) {
analogWrite(redPin, red);
analogWrite(greenPin, green);
analogWrite(bluePin, blue);
}
void setup()
{
for (int i = 9; i <= 11; i++) {
pinMode(i, OUTPUT);
}
}
void loop()
{
setColor(255,0,0);
delay(500);
setColor(0,255,0);
delay(500);
setColor(255,255,0);
delay(500);
setColor(80,0,80);
delay(500);
setColor(0,255,255);
delay(500);
setColor(1,1,1);
delay(500);
setColor(150,20,150);
delay(500);
}
Snip saved to clipboard
Select here to mark up and share the image
Serial Monitor
DIGITAL (PWM~)
ARDUINO
UNO
POWER
ANALOG IN