Random Numbers

Time required: 15 minutes

Please read all the directions carefully before beginning the assignment.

1. Comment your code as shown in the tutorials and other code examples.
2. Follow all directions carefully and accurately.
3. Think of the directions as minimum requirements.

Understanding

Demonstrate understanding of:

random numbers, serial monitor

Requirements

Complete and successfully run the program as displayed.

Tutorial Assignment

We are going to generate some random numbers. This can be used to send the robot in random directions for random times or random LED light values. This sketch also shows how to use the Serial Monitor for debugging purposes.

1. Start the Arduino IDE. Save the sketch as **RandomNumbers**.
2. Complete and test the program as pictured with the requirements listed.
3. While running the sketch, go to **Tools → Serial Monitor** to display the random numbers. Please include this in your video.
4. Comment your code.

Assignment Submission

1. All students: Zip up the sketch folder. Attach the zip file to the assignment in Blackboard.
2. The assignment is demonstrated in class.
3. Online students: A link to a YouTube video recording showing your robot going through its motions is placed in the submission area in BlackBoard.

```
// File    RandomNumbers.ino
// Author  William A Loring
// Version V1.0.0
// Date revised 02/20/18  created: 12/17/16
// Description: Display pseudo - random numbers to the Serial Port
// Analog input pin 0 is unconnected, random analog
// noise will cause the call to randomSeed() to generate
// different seed numbers each time the sketch runs.
// randomSeed() will then shuffle the random function.

#include <MeMCore.h>  // Include mBot library
int number;           // Variable to store random number

void setup() {
  Serial.begin(9600);         // Setup serial monitor
  randomSeed(analogRead(A0)); // Seed random number from disconnected analog port
}

void loop() {
  number = random(1, 7);      // Generate random number inclusive between 1 & 6
  Serial.println(number);     // Print number to Serial Monitor
  delay(500);
}
```