**Randomness**

Reference: Gaddis 4.11

Topics: Random numbers

**What if I want randomness in my program? Do something by a probability?**

Use the class

* Gives you the next pseudorandom number in its sequence

Import:

Random rand = new Random(); //declare & instantiate object

int luckyNumber = rand.nextInt(100);

rand.nextInt(100) generates a random integer in the range

*How would you generate an integer in the range 1-10?*

int num = rand.nextInt(

*in the range 21-50?*

**Let’s Test it Out**

* Open testRandom.java from your ClassExamples repository
* Complete the code to write to a file MAX random numbers in the range of 0-19. Open the .csv file you just created in Notepad or Notepad++ and look at the values to see if you did it correctly.
* Modify your code to now write to a NEW file, MAX random numbers in the range of 50-100
* Draw flowchart:

**Example**: A Guessing Game

Problem: Your program rolls a 20 sided die. The user has to guess what number it rolled.

*Algorithm:*

1. Create a random number in the range 1-20
2. Create a count variable and set to 0
3. Ask the user to guess the number, telling them the range in which they may guess
4. Read in their guess
5. While the user has not guessed correctly
   1. If the number they guessed is higher than the correct number
      1. Tell them they are wrong and to guess lower!
   2. Otherwise, if they number they guessed is lower than the correct number
      1. Tell them they are wrong and to guess higher!
   3. Read in their new guess
   4. Increase count by 1
6. Tell them “Congrats! You finally guessed the number after “ + count + “ tries!”

**Flowchart :**