

Computer Programming

Unit 1 WS03a Random Numbers

For the code below, decide the purpose of each line in terms of its job in selecting a random number from 1 to 10. When finished, enter the code into NetBeans and run the class 5 times.

```
Line 1      int v;  
Line 2      double r=Math.random();  
Line 3      v=(int)((10*r)+1);  
Line 4      System.out.println("I will pick a random integer from 1 to 10.\n");  
Line 5      System.out.println("I chose "+v+".");
```

What is the purpose of Line 2?

In Line 2, why is the variable 'r' defined as a double instead of as an integer?

In Line 1, why is the variable 'v' defined as an integer instead of as a double?

What is the range of values for 'r' from line 2? Use $<$, \leq , $>$, and \geq symbols to write your answer.

In Line 3, what is the range of values for $10*r$? Use $<$, \leq , $>$, and \geq symbols to write your answer.

In Line 3, what is the range of values for $(10*r)+1$? Use $<$, \leq , $>$, and \geq symbols to write your answer.

In Line 3, what is the purpose of (int)? Be specific.

In Line 4, what is the purpose of the `\n`?

What were the five random numbers you got when running the program 5 times:

_____, _____, _____, _____, and _____.