

Introduction to Programming

with Java, for Beginners

Random Class (E.g. OOP class)

Random Class

- A class to create Random numbers
- Constructor Summary shows the objects of this type can be created
 - E.g. `Random r = new Random();`
- Method Summary shows that it can generate random values of types:
 - integers, doubles etc.
 - E.g. `r.nextInt(6)` – Generate a integer numbers between 0 (inclusive) and 6 (exclusive)

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Packages and import Statements

- What is a *package*?
 - Basically it's a directory that has a collection of related classes
 - E.g. Random Class description contains: `java.util.Random`
 - Indicating that the Random class code is stored in the directory path `java/util/` somewhere on your machine
 - "util", or utility *package*
- In order to use implemented work, need to tell Java compiler where class is located
 - Use *import* statement
 - `import java.util.Random;`
 - Another way is to use the asterisk "wildcard character": `import java.util.*;`
 - Import statement is written outside the class description in a file

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Difference between Math & Random

- object oriented vs. non-object oriented (procedural)
 - Math class is an example where all variables/methods are static
 - E.g. Only one copy of constants PI and E
- Import vs. No Import statement
 - Random class usage requires an import statement as it not part of the java language (java.lang) unlike the Math class.

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Example Usage

```
import java.util.Random;
public class egHasARelation {
    Random r; //instance variable of type Random

    public egHasARelation (){
        r = new Random();
    }
    public int randbet1to100() {
        return r.nextInt(100) + 1;
    }
}
```

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