

## Assignment #2 – Dice in Java using IntelliJ

**Date assigned:** Tuesday, January 6, 2015

**Date due:** Thursday, January 8, 2015

**Points:** 20

For an upcoming Android game, we are going to need to create and use one or more Dice as well as allow methods for rolling and displaying the dice. Here is a very simple Java program segment that shows what I'm talking about:

```
Dice mDice = new Dice (3);  
  
mDice.roll ();  
mDice.display ();
```

**Result:**

```
-----  
|  |  
| o |  
|  |  
-----  
  
-----  
|o o|  
|  |  
|o o|  
-----  
  
-----  
|o o|  
|o o|  
|o o|  
-----
```

The result of the roll must be random each time the dice are rolled.

This is a fairly simple assignment but I'm expecting a well thought out design and a concise/efficient solution. Here are some things to think about:

1. What is the correct OOD for this assignment?
2. How can code be written efficiently? For example, I don't want to see a bunch of if/else statements in display.
3. The Java API is rich. How can this rich API be leveraged in an efficient solution. For example, take a look at List, ArrayList, Vector, Random,...

For each class you implement, there must be a simple driver that creates an object of said class and performs some simple operations AND a JUnit test that tests each method of the class.

Much of your grade will be based on a correct OOD and complete driver & JUnit tests.

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### Goals for Assignment #2:

1. Design using good OO techniques
  2. Better understand the IntelliJ IDEA framework
  3. Expand your use of the Java API
  4. Continue to use the JUnit framework for testing classes
  5. Write efficient Java code
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### Specifics:

1. Create a folder called your PUNetID, place a copy of Dice in your PUNetID folder, and drop PUNetID into CS260-01Drop on grace. Your code is to be written using the development tools specified in the syllabus and using the Java coding standards on the course Web page.
2. If you come to me with a question regarding your solution, I will have you load your project onto a machine in the CS lab. I will not look at your code on your computer or on paper as it just takes me too long to get at the problem. Further, I want you to bring in your lecture notes in case I want you to look up something. Remember, I'm not just a tell you the answer guy. Make sure you understand how to use the developer tools and that you can run your program in Eclipse.
3. If you want help with a compiler error, you must be able to tell me exactly what statement you put in your code that caused the error and be able to isolate the error. If you have typed in a bunch of code and have not tested your code as you've gone along, I'm not going to help you sort out the mess. You've been warned!!
4. IntelliJ keyboard shortcuts  
<https://www.jetbrains.com/idea/help/keyboard-shortcuts-you-cannot-miss.html>