# CISC275 Spring 2018 Lab01

For today's lab, work either in pairs or triples (no singles, no four+). Be sure each file of your code has all names in it. Each group will submit only one copy, under one person's name, on Canvas. You will lose points if you submit two copies (it makes extra work for the TA).

Try to work with someone you do not know. When we make teams later in the semester you will need to know people. I will take your preferences into account, but that does not always work out, so you need to know many different people in the class with whom you can work. Now is the ideal time to work together on a simple assignment.

1. Write a new class in Eclipse. Write two static functions that take parameters: one multiplies two ints and returns the product, and the other returns the concatenation of two strings.

2. Write four JUnit tests, one to fail and one to pass for each function.

3. Demonstrate the execution of your JUnit tests to your TA before you leave *or* submit all code files on Canvas as a single exported Eclipse project zip.

   Resources:

   `http://www.vogella.com/articles/JUnit/article.html#junit_intro`

   `http://docs.oracle.com/javase/tutorial/java/index.html`

   Did you read all the instructions at the top?

## Problems to practice Java (not for submission)

4. Write a Cat class. A cat has a number of legs, a weight, and a name. Write three constructors with parameters (respectively) legs/weight/name, name/weight, and name/legs. Create three cats, place them in a list, and show them printing nicely. Use your best coding practices!!

   In the comments, briefly state a significant problem with this design (from the perspective of a coder using your class).

5. Write code to map the return values from nextInt() (note lack of parameter!) in the Random package into three approximately equal parts. Demonstrate by calling 1,000,000 times, then printing the total number of times a number mapped into each part. Note - you are only printing three numbers.

6. Make a "constant" equal to 12. Declare an array of 12 ints. Initialize the array using a loop, then use a different loop to print the array, showing four lines of three numbers. Now make one change to a single number (your constant) so that the program prints 75 numbers in 25 lines of three numbers (or 90 numbers in 30 lines of three numbers, etc). You should not have to change anything else in the code.