CSC 1051 - Lab 6  

Objectives:  
Learn about using Java classes and referencing the Java API.  

1. Using the String class  
a) Write a Java program that asks your name and then prints it out one letter per line.  

b) Write a program that prints out how many vowels are contained in some text represented as a String (i.e., count the letters ‘a’, ‘e’, ‘i’, ‘o’, ‘u’ and their uppercase versions). For this program, you may use as a starting point the program you wrote for Project 1 (printing poems). Add some code that goes through the String representing the second poem, counting the vowels, and then prints out the total. Hint: Before counting the vowels, put the entire string in uppercase, this way you don’t need to check separately for ‘a’ and ‘A’. To count the vowels, implement a loop that goes through the string, one letter at a time and increments a counter every time the letter is a vowel.  

Demonstrate your work: ________________________________  

2. Using the Random class  
a) Implement the snake eyes program from last week’s notes (see ppt slide 24). Use it to compute and print the chances of rolling snake eyes. Run your program 4 times and record the results here  
   1) ________  3) ________  
   2) ________  4) ________  

b) Add something “random” to one of your applets (eg your project 5 applet or the Snowman applet) – eg some stars or some snow.  

Demonstrate your work: ________________________________  

3. Using the Math class  
The Math class has lots of useful methods to do commonly occurring calculations. Find the Math class in the Java API:  
http://docs.oracle.com/javase/6/docs/api/index.html  
Try using some methods in one of your earlier programs:  
a) Math.round() – eg, in the Wages program, round the wage to the nearest dollar  
b) Math.random() – eg, rewrite your snake eyes without using the Random class. (Be sure to remove the import statement.)  
c) Math.PI - this is a constant, representing the value of pi. Use it with Math.sin() and Math.cos() to print the values of a trig function for the range of angles from 0 to 2*pi, at increments of pi/10.  

[Optionally, use sine and/or cosine values, multiplied by some constant (say 100) and cast to int, to produce interesting patterns in an image. ]  

Initials (Instructor/TA): ________________________________