COMP 210 **Object-Oriented Programming**

Lab 1 & Homework 1

January 17 *Spring 2018*

Abstract

For your first assignment you'll use Java to write the kind of procedural code you wrote in C++. This is not how we plan to actually use Java throughout the course. The point of this exercise is to get your basic tools up and running (Eclipse and JUnit) and to get used to some differences between key statements in Java and C++.

1 The Program

Between lab 1 and homework 1 you'll design, implement, and test the following procedures:

- A function named *sumTo* that computes the sum off all the integers from 0 to $n-1$ when given n. In mathematical terms it computes this: $\sum_{i=0}^{n-1} i$
- An output procedure named *fizzbuzz* that carries out the classic fizzbuzz problem[1]. This procedure takes the PrintStream and a positive integer n and for each number i from 1 until n it will print:
  - *Fizz* if the number is divisible by 3 but not 5
  - *Buzz* if the number is divisible by 5 but not 3
  - *FizzBuzz* if the number is divisible by 3 and 5
  - i otherwise (its value, not the letter i)

  Output should be comma separated and on one line. There should be no comma after the final output.
- A mutator named *rmvAll* which takes a StringBuilder (basically a mutable string) and a character and remove all occurrences of the character forming the string.
- An input procedure named *readUntil* which takes a Scanner, a string and a StringBuilder and reads all the strings from the Scanner until the string argument is encountered or until there are no more strings, whichever comes first. Thestrings read are appended to the StringBuilder without any separation.

2 Lab 1

Your goal in lab is to get your project setup, main stubbed, the procedures declared, documented, and stubbed, and the JUnit tests stubbed (letting Eclipse do the work). Once this is done, be sure you can run your stubbed out code. From there move on to writing tests and completing *main*. You should use all the above procedures in *main*, but beyond that it doesn't matter. You *must* finishes these first, before starting on the implementation of the functions[2].

At the end of lab or when you finish the lab work, which ever comes first, submit the source code and only the source code using *handin*. The assignment is *lab1* and the course is *comp210*. Handin lets you submit multiple directories, so just handin the src and tests folders directly. If I get anything other than source code, you'll have to resubmit or get a zero.

3 Homework 1

Complete the lab work if necessary then implement the procedures. Debug as needed. Submit the completed source code as assignment *hwk1* using handin. Once again, submission containing anything other than the Java source code will not be accepted. Due before class time of the next lab.

[1] This is a common interview question for entry-level programming jobs.

[2] If I see function implementation and not tests or main, you get a 1 (check minus)