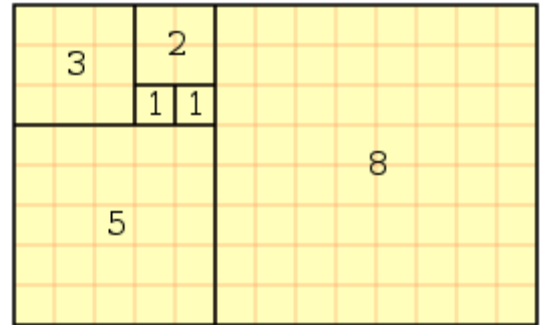# ICS 4U Test of Java Basics – Practical
20 Marks

This Test is open book (notes and text book), with the use of your computer. Complete the following programs, save them on the H drive and print them out. Make sure your name is in comments at the top of each program

1. As you are probably aware the Fibonacci number sequence looks something like:

   0, 1, 1, 2, 3, 5, 8, 13, …

   By definition, the first two Fibonacci numbers are 0 and 1, and each remaining number is the sum of the previous two. Create a program that allows the user to enter a number, N and then displays N+1 terms of the sequence. Sample Run:

   ```
   Enter number: 6
   0, 1, 1, 2, 3, 5, 8
   ```

   Save as **RealTest11c.java** (10 marks)

2. I've decided to change the PIN number of my bank card on a regular basis. The problem with this, of course, is that I'm apt to forget the number. I don't want to write it down because that is also an obvious security risk. In the end I've decided to encode it and write down only the encoded version. The encoded version is a sentence that contains numbers as well as other characters. To find my PIN from the sentence I find all of the numbers and multiply them together then just use the last four digits. Write a program that will allow me to type in a sentence and tell me my PIN number.   Save as **RealTest12c.java** (10 marks)

   Sample Run:
   ```
   Enter Sentence:
   At 3:45 pick up 12 eggs for breakfast on Oct 26th at 9:35
   PIN:7800
   ```

   Explanation: 3 x 45 x 12 x 26 x 9 x 35 = 13267800