**CSC 1302: PRINCIPLES OF COMPUTER SCIENCE II**

**Lab 9**

**How to Submit**

Please submit your answers to the iCollege ‘assignment’ dropbox for your lab, once you have completed. Failure to submit within your given time period will result in a **ZERO FOR THIS LAB. NO EXCEPTIONS**.

1. What will be the output when the following program is executed?

public class Recur{

public static void main(String [] args){

print(5);

}

public static void print(int n) {

if (n!=0){

print(n-1);

printNum(n);

System.out.println();

}

}

public static void printNum(int n){

if(n!=0){

printNum(n-1);

System.out.print(n+ n+ " ");

}

}

}

1. Write a recursive method called *cumulativeSum()* that takes one int parameter and returns the cumulative sum of the numbers up to n. [*cumulativeSum(n)*=1+2+3+….+n-1+n]
2. Write a recursive method called *fib()* that takes an int parameter and returns the Fibonacci number at that location in the series.

NOTE: The Fibonacci sequence is a sequence of numbers in which the first two numbers are 1 and each subsequent number is sum of the previous two Fibonacci numbers. The sequence is 1,1,2,3,5,8,13,21,34,55,… and so on. So *fib(4)* should print 3, *fib(6)* should print 8, *fib(8)* should print 21, *fib(10)* should print 55 and so on.