**External Documentation for CPSC 1150 – W05 Lab 10**

**Program:** CheckerBoard

File Name: CheckerBoard.java

Purpose: Generating checker board and check if row/column/diagonal is all 0s

Input: none

Output: complete checkerboard/ statements saying any row/column/diagonal is all 0s

**Algorithm**

CheckerBoard

START

1. Declare a 2d array
2. Assign random number between 0 and 1 to each of the element
3. Set up method rowChecker(), columnChecker, and methods that checks diagonally
4. Use nested loop for each of the methods to check if designated elements are all 0s and if yes, print.

END

**Sample Input and Output**

00000000

00011111

10011010

10011011

00001111

01100111

00110011

01001001

All 0's on row 0

**Program:** CountUppercaseLetters

File Name: CountUppercaseLetters.java

Purpose: Count uppercase letter in a input string

Input: user input string

Output: Number of uppercase letters in a string

**Algorithm**

Count upper case letter

START

1. Setup nested loop that both loops 3 times each
2. If character of the string is between A and Z, add 1 to the count
3. Display count

END

**Sample Input and Output**

>Java CountUppercaseLetters My Name Is Jay Lee

The total number of uppercase letters is 5

**Program:** TestAddMatrix

File Name: TestAddMatrix.java

Purpose: To get the sum of elements in 2 2d arrays

Input: none

Output: sum of elements in 2 2d arrays

**Algorithm**

TestAddMatrix

START

1. Declare 2d arrays (3 in total)
2. Setup a method that generates random numbers and assign them to the arrays
3. Setup a method that adds two array’s element and store it in a result array
4. Print the result array

END

**Sample Input and Output**

12 5 9

10 3 14

5 7 1