The University of the West Indies, St. Augustine
COMP 1602 Computer Programming II
Summer, 2020/2021

**Tutorial 3**

1. Write a function, `getPosition`, which given a character as a parameter, returns 0 if the character is not a letter of the English alphabet; otherwise, it returns the position of the letter in the alphabet. For example, given the letter 'G' it returns 7. The function should work if the character is either an uppercase or a lowercase letter. Use the function in main to determine the positions of 'A', 'c' and 'y'.

2. Write a function, `addRandomNumbers`, that generates two random numbers between 1 and 10 (inclusive), adds them and prints the result. Test this function from main.

3. Write a function, `guessingGame`, to generate a number from 1 to 100 (inclusive) and ask the user for up to 10 guesses. If a guess is correct, the user wins. If not, you inform them that their guess was either too low or too high.

4. Write a function, `cheatersDie`, to simulate a 6 sided cheater's die, where a 6 is twice as likely to occur as any other number. It must return a number 1 to 6 (inclusive) to represent each face of the die. Simulate 12 rolls of the die from main and print the results.

5. Write down the sequence of events that would occur if we have to simulate a queue with the following data: start time is 10:00am, number of counters is 2, arrivals is [1, 4, 5 ,3] and service times is[6, 12, 8, 9].

6. (a) What is the main difference between text and binary files?

   (b) List two advantages of binary files.

   (c) Write code in main to open a binary file `data.dat` and write the number 100 to the file. You must then open and read back the value from the binary file.