Programming Assignment – 1
CS 2133 Computer Science II
Due: 09/04/2020 at 9:00 AM on CANVAS

Read through each problem and write a JAVA program to implement the solution. Turn in a Zip file containing

1. ALL JAVA programs titled: LastName_ProblemX.java – where X is the problem number
2. There should be a separate JAVA file for each problem, e.g., If you will have 3 problems, you will submit 3 separate JAVA files.
3. A report detailing your solution for each problem. Why you chose the loop you used – counter-based, early-test, etc. Your report must be named LastName_Report.pdf and should contain a very brief (maximum 4 lines) of description of each solution.
4. All programs will be tested for completeness on three different test cases.
5. **Unless otherwise specified please do not use pre-defined libraries or functions.**

Problem 1: (5 points)

Write a program which will ask the user to input an integer number corresponding to a duration expressed in minutes. You will then display on the screen the conversion of this duration in the hours:minutes format.

Problem 2: (10 points)

Prompt the user for a number n. Check if the number is a valid binary number or not i.e. all digits in the number must be either 0 or 1. For example, 101 is a binary number whereas 123 is not. Note: 0 and 1 are the only single digit binary numbers.

Problem 3: (10 points)

Write a JAVA program that generates the list of prime numbers between two given numbers.

Bonus problem: (5 points)

Password checker program basically checks if the password is valid or not based on password policies mention below:

a. Password should not contain any space.
b. Password should contain at least one digit (0-9) and no consecutive digits.
c. Password length should be between 6 to 8 characters.
d. Password should contain at least one uppercase letter(A-Z).
e. Password should contain no special character (@, #, %, &, $, etc….).