***CSC 3020***

***Java Programming***

**Lab 01**

**25 points**

**Due 10:10 A.M.**

**Please Do not forget to sign-in**

**To receive credit for the lab assignment and the quiz, your signature in the sign-sheet must be confirmed.**

Assignment Objectives:

■■ To create, compile, and run Java programs.

■■ To obtain input from the console using the **Scanner** class.

■■ To explore Java numeric primitive data types.

■■ To declare **boolean** variables and write Boolean expressions using relational operators.

■■ To generate random numbers using the **Math.random()** method.

■■ To program using selection statements for a variety of examples.

■■ To combine conditions using logical operators (**!**, **&&**, **||**, and **^**).

■■ To implement selection control using **switch** statements.

■■ To examine the rules governing operator precedence and associativity.

■■ To represent strings using the **String** class.

**Solution to this assignment will not be posted on Canvas; however, any question can be discussed in the class upon request of a student.**

All lab assignments must be submitted by the Canvas. **No email or hard copy** is accepted. You must follow the following format:

1. For non-programming questions, use a word file to type your answers. Don’t use the text box on the Canvas to answer the questions or to write comments, we will not read it.
2. State your answer clearly.
3. For programming questions, include only the source file for each problem.
4. Submit your file to the Canvas. You must submit your assignment on time; otherwise, you will receive zero. In addition, you cannot submit your file more than one time.
5. There will be several folders on the Canvas. You need to upload your file(s) using the correct folder on the Canvas.
6. Name each file: “Assignment Number(Question number(s))”.
7. To upload your file(s):

* In Course Navigation, click the Assignments link.
* Click the title of the assignment.
* Click the **Submit** Assignment button.
* Add **File**. ...
* Add Another **File**. ...
* **Submit** Assignment. ...
* View **Submission**.

**It is your responsibility to make sure that each file is uploaded correctly. If you uploaded a wrong file, you receive zero; files will not be accepted after due date even if you have a prove that the file is created before the due date.**

**Make sure you review the Cheating & Plagiarism policy on Canvas.**

Write a single program for part 01 and part 02; Convert .java file to a text file. Submit only one text file by the due time. Name your class **Lab01**.

**Part 01:**

Assume that a vehicle plate number consists of three uppercase letters followed by four digits. Write a program to generate a plate number.

Here are sample runs:

A random vehicle plate number: BWV4077

A random vehicle plate number: ZKR2001

**Part 02:**

An ISBN-10 (International Standard Book Number) consists of 10 digits: *d*1*d*2*d*3*d*4*d*5*d*6*d*7*d*8*d*9*d*10. The last digit, *d*10 is calculated from the other 9 digits using the following formula:

(*d*1 \* 1 + *d*2 \* 2 + *d*3 \* 3 + *d*4 \* 4 + *d*5 \* 5 + *d*6 \* 6 + *d*7 \* 7 + *d*8 \* 8 + *d*9 \* 9) %11

If the result is 10, the last digit is denoted as X according to the ISBN-10 convention.

Write a program that prompts the user to enter the first 9 digits and displays the 10-digit ISBN (including leading zeros). Your program should read the input as an integer. Do not use Strings or arrays.

Here are sample runs:

Enter the first 9 digits of an ISBN as integer: 013601267

The ISBN-10 number is 0136012671

Enter the first 9 digits of an ISBN as integer: 013031997

The ISBN-10 number is 013031997X