EAST WEST UNIVERSITY
Department of Computer Science and Engineering
B.Sc. in Computer Science and Engineering Program
Lab 1, Summer 2022 Semester

Course: CSE 110 Object Oriented Programming
Instructor: Mahamudul Hasan, Senior Lecturer, CSE Department
Full Marks: TBA
Time: 3 Hours

1.	Write a Java program to print 'Hello' on screen and then print your name on a separate line. Expected Output: Hello Donald Trump
2.	A school has following rules for grading system: a. Below 25 - F b. 25 to 45 - E c. 45 to 50 - D d. 50 to 60 - C e. 60 to 80 - B f. Above 80 - A Ask user to enter marks and print the corresponding grade.
3.	Create a function that takes two numbers as arguments and returns the GCD of the two numbers. Examples gcd(3, 5) → 1 gcd(14, 28) → 14 gcd(4, 18) → 2
4.	Given an integer, create a function that returns the next prime. If the number is prime, return the number itself. Examples nextPrime(12) → 13 nextPrime(24) → 29 nextPrime(11) → 11 // 11 is a prime, so we return the number itself.
5.	Write a Java program that takes two numbers as input and display the product of two numbers. Test Data: Input first number: 25 Input second number: 5 Expected Output: 25 x 5 = 125

6.	Write a Java program to print the sum (addition), multiply, subtract, divide and remainder of two numbers. Test Data: Input first number: 125 Input second number: 24 Expected Output: 125 + 24 = 149 125 - 24 = 101 125 x 24 = 3000 125 / 24 = 5
7.	Write a Java program that takes a number as input and prints its multiplication table upto 10. Test Data: Input a number: 8 Expected Output: 8 x 1 = 8 8 x 2 = 16 8 x 3 = 24 8 x 10 = 80
8.	Create a function that finds how many prime numbers there are, up to the given integer. Examples primeNumbers(10) → 4 // 2, 3, 5 and 7 primeNumbers(20) → 8 // 2, 3, 5, 7, 11, 13, 17 and 19 primeNumbers(30) → 10 // 2, 3, 5, 7, 11, 13, 17, 19, 23 and 29
9.	Write a Java program to compute a specified formula. Specified Formula: 4.0 * (1 - (1.0/3) + (1.0/5) - (1.0/7) + (1.0/9) - (1.0/11)) Expected Output 2.9760461760461765
10.	Write a Java program to print the area and perimeter of a circle. Test Data: Radius = 7.5 Expected Output Perimeter is = 47.12388980384689 Area is = 176.71458676442586
11.	Write a Java program that takes three numbers as input to calculate and print the average of the numbers.
12.	Write a Java program to print the area and perimeter of a rectangle. Test Data: Width = 5.5 Height = 8.5 Expected Output Area is 5.6 * 8.5 = 47.60 Perimeter is 2 * (5.6 + 8.5) = 28.20
13.	Write a Java program to swap two variables without using any third variables.

14.	Write a Java program to compare two numbers. Input Data: Input first integer: 25 Input second integer: 39 Expected Output 25 != 39 25 < 39 25 <= 39
15.	Write a Java program and compute the sum of the digits of an integer. Input Data: Input an integer: 25 Expected Output The sum of the digits is: 7
16.	Write a Java program to print the odd numbers from 1 to 99. Prints one number per line. Sample Output: 1 3 5 .... 97 99
17.	Create a function that takes an integer n and reverses it. Examples rev(5121) → "1215" rev(69) → "96" rev(-122157) → "751221" Notes This challenge is about using two operators that are related to division. If the number is negative, treat it like it's positive.
18.	Write a Java program to calculate the sum of two integers and return true if the sum is equal to a third integer. Sample Output: Input the first number : 5 Input the second number: 10 Input the third number : 15 The result is: true
19.	Write a Java program to compute the sum of the first 100 prime numbers. Sample Output: Sum of the first 100 prime numbers: 24133