

North South University

Department of Electrical and Computer Engineering

CSE 215L: Programming Language II Lab

Lab – 1: Introduction & Environment Setup

Learning Objectives:

- to learn how to setup environment for a java program
- to know about Datatypes, Variables, Operators, Expressions

Example-1 // A Simple Java Program

```
public class HelloWorld {  
    public static void main(String[] args) {  
        System.out.println("Hello World!");  
        System.out.println("Welcome to CSE215 Lab");  
    }  
}
```

Example-2 // Arithmetic Operators

```
public class CalculateArithmetic {  
    public static void main(String[] args) {  
        int num1 = 5, num2 = 2;  
  
        System.out.println("Sum: " + (num1 + num2));  
        System.out.println("Difference: " + (num1 - num2));  
        System.out.println("Product: " + (num1 * num2));  
        System.out.println("Quotient: " + (num1 / num2));  
        System.out.println("Remainder: " + (num1 % num2));  
    }  
}
```

Lab Task:

1. Suppose, today's temperature is 32 °C. Now, write down a java program to convert the temperature from Celsius to Fahrenheit. [Hint: $F = (9/5 * C) + 32$]
2. Write a program that displays the area and perimeter of a circle that has a radius of 5.5 using the following formula and format the output (up to 2 decimal points).
perimeter = $2 * \text{radius} * \text{PI}$, area = $\text{radius} * \text{radius} * \text{PI}$
3. Write a program that displays the area of a triangle with the base of 4.5 and height of 6.4 using the following formula and format the output (up to 2 decimal points).
area = $\frac{1}{2} * \text{base} * \text{height}$
4. Suppose, a runner runs 14 kilometers in 45 minutes and 30 seconds. Write a program that displays the average speed in miles per hour. [Hint: 1 mile = 1.6 kilometers]
5. Write down a program to find out the Manhattan Distance (M.D) between (4, 7) and (13, 21). [Hint: For two points (X1, Y1) and (X2, Y2), M.D = $|X1 - X2| + |Y1 - Y2|$]