**PSG COLLEGE OF TECHNOLOGY**

**DEPARTMENT OF COMPUTER APPLICATIONS**

**20MX27 - Java Programming Laboratory**

**Preamble Worksheet 1**

1. Write a program that reads a Celsius degree in double from the console, then converts it to Fahrenheit and displays the result. The formula for the conversion is as follows:

fahrenheit = (9 / 5) \* celsius + 32

1. Write a program that reads in the radius and length of a cylinder and computes volume using the following formulas:

area = radius \* radius \*

volume = area \* length

1. Write a C++ program to determine obesity according to body mass index, computed by,

BMI = Weight in kgs



(Height in meters) **2**

A BMI >=27.8 for men and BMI >=25 for women is considered as obesity. The program should prompt for height, weight and gender and determine whether the person is obese.

1. Write a Java program that accepts two double variables and test if both strictly between 0 and 1 and false otherwise.

*Sample Output:*  
Input first number: 5  
Input second number: 1  
false

1. Write a function that takes an integer minutes and converts it to seconds.

convert(5) ➞ 300

convert(3) ➞ 180

convert(2) ➞ 120

6. Create a method that takes two integers as arguments and return their sum.

SumOfTwoNumbers(3, 2) ➞ 5

SumOfTwoNumbers(-3, -6) ➞ -9

SumOfTwoNumbers(7, 3) ➞ 10

7. Create a function that returns true when x is equal to y; otherwise return false.

isSameNum(4, 8) ➞ false

isSameNum(2, 2) ➞ true

isSameNum(42, 32) ➞ false

8. Write a function that converts hours into seconds.

howManySeconds(2) ➞ 7200

howManySeconds(10) ➞ 36000

howManySeconds(24) ➞ 86400

9. Create a function that takes length and width and finds the perimeter of a rectangle.

findPerimeter(6, 7) ➞ 26

findPerimeter(20, 10) ➞ 60

findPerimeter(2, 9) ➞ 22

10. Create a function that takes voltage and current and returns the calculated **power**.

power(230, 10) ➞ 2300

power(110, 3) ➞ 330

power(480, 20) ➞ 9600

11. Create a function that takes a number as an argument, increments the number by +1 and returns the result.

addition(0) ➞ 1

addition(9) ➞ 10

addition(-3) ➞ -2

12. Create a function that takes the age and return the age in days.

calcAge(65) ➞ 23725

calcAge(0) ➞ 0

calcAge(20) ➞ 7300

13. Create a function that takes an array containing only numbers and return the first element.

getFirstValue([1, 2, 3]) ➞ 1

getFirstValue([80, 5, 100]) ➞ 80

getFirstValue([-500, 0, 50]) ➞ -500

14. Create a function that finds the maximum range of a triangle's third edge, where the side lengths are all integers.

nextEdge(8, 10) ➞ 17

nextEdge(5, 7) ➞ 11

nextEdge(9, 2) ➞ 10

**Notes**

* (side1 + side2) - 1 = maximum range of third edge.
* The side lengths of the triangle are positive integers.

15. Create a function that takes a number as an argument, increments the number by +1 and returns the result.

addition(0) ➞ 1

addition(9) ➞ 10

addition(-3) ➞ -2