



AMERICAN INTERNATIONAL UNIVERSITY-BANGLADESH (AIUB)

Faculty of Science and Technology (FST)

Department of Computer Science (CS)

Introduction to Programming

You have to use variables and proper arithmetic expression for all programs.

Submission: You have to submit the assignment on the next LAB.

1. Write a C++ program that converts a temperature from Centigrade to Fahrenheit.

Hint: Equation $\frac{C}{5} = \frac{F-32}{9}$

Sample Output:

Temperature (in Centigrade): 45

Temperature (in Fahrenheit): 113 degrees

2. Write a C++ program that calculates the volume of a sphere.

Hint: $V = \frac{4}{3} \pi r^3$

Sample Output:

Radius of the sphere: 2.56

The volume of sphere is 70.27.

3. Write a C++ program that prints the perimeter and area of a rectangle using height and width.

Hint: Perimeter Equation $P = 2 (\text{length} + \text{width})$

Area Equation $A = \text{length} * \text{width}$

Sample Output:

Height of the Rectangle: 5

Width of the Rectangle: 7

Perimeter of the Rectangle is: 24

Area of the Rectangle is: 35

4. Write a C++ program that converts kilometers per hour to miles per hour.

Hint: 1 k.m = 0.6213712 mile

Sample Output:

Kilometers per hour: 15

9.320568 miles per hour

5. Write a C++ program that solves the Quadratic Equation $3x^2+25x-18 = 0$
Hint: $ax^2+bx+c = 0$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Sample Output:

Value of a = 3

Value of b = 25

Value of c = -18

Solution, x = 0.667, -9

You have to use variables and proper arithmetic expression for all programs.

Submission: You have to submit the assignment on the next LAB.

Course Teacher: RIFATH MAHMUD, Semester: Spring 2019-2020

