

# **Khulna University of Engineering & Technology**

## **Programming Sessional Lab (sheet 1)**

1. Write a program to find the addition, subtraction, multiplication and division of two integers A and B.
2. Write a program to read a length in inch scale and convert it in the centimeter scale.
3. Write a program to convert a temperature reading in degree Fahrenheit to degree Celsius scale using the formula:  $C = (5/9) * (F - 32)$
4. Write a program to read the radius of a circle and calculate its area and circumference.
5. Write a program to calculate the volume and area of a sphere using the formula:

$$V = 4 \pi r^3 / 3 \quad \text{and} \quad A = 4 \pi r^2$$

6. X, Y, Z are the marks of a student. Write a program to find the total and average marks of the student.
7. Write a program to find the length of the hypotenuse of a right triangle given the length of other two sides.
8. Evaluate the polynomial:

$$Y = \left( \frac{x-1}{x} \right) + \left( \frac{x-1}{x} \right)^2 / 2 + \left( \frac{x-1}{x} \right)^3 / 3 + \left( \frac{x-1}{x} \right)^4 / 4$$

where the value of x is given from the keyboard.

9. Write a program to calculate the roots of the quadratic equation  $ax^2 + bx + c = 0$  where a, b and c are known.
10. Write a program to determine and print the sum of the following harmonic series for a given value of n.

$$1 + 1/2 + 1/3 + \dots + 1/n$$