Assignment
Course Title: Computer Science-I Lab
Course Code: Math 111

1) How can you use C++ to display
   i. "*Hello World*"
   ii. "*I Love Bangladesh*"
   iii. "*Programming knowledge is very much important for career*"

2) Write a C++ program that takes two integers as input from the user and prints their sum, difference, product, and quotient.

3) Write a C++ program that takes the radius of a circle as input from the user and calculates and prints its area and circumference. Use the value of pi as 3.1416.

4) Write a C++ program that takes the length and width of a rectangle as input from the user and calculates and prints its area and perimeter.

5) Write a C++ program that takes the marks of five subjects as input from the user and calculates and prints the total, average, and percentage of marks. Assume that each subject has a maximum of 100 marks.

6) Write a C++ program that takes a character as input from the user and checks whether it is a vowel or a consonant. If the input is not a letter, print an error message.

7) Write a C++ program that takes a year as input from the user and checks whether it is a leap year or not. A leap year is divisible by 4, except if it is also divisible by 100, in which case it is not a leap year, unless it is also divisible by 400, in which case it is a leap year.

8) Write a C++ program that takes a positive integer as input from the user and checks whether it is a prime number or not. A prime number is a positive integer that has only two factors: 1 and itself.

9) Write the C++ programming code to solve:
   $2x+3y+5z=10,\ x+y+z=3,\ 2x+5y+7z=14$

10) Using C++, how do you solve summation of series:
   i. $1^2 + 2^2 + 3^2 + \ldots + n^2$
   ii. $1.2.3 + 2.3.4 + 3.4.5 + \ldots\ldots$
   iii. $1^3 + 2^3 + 3^3 + \ldots + n^3$