Task 1: Basic Concepts of C++

1. Write a C++ program to allow a user to input two integer numbers from KB, and then print the summation, the subtraction, the multiplication, and the division of the two numbers on the screen.
2. Write a C++ program to calculate the area and perimeter of a circle of radius R, and then print the area on the screen.
3. Repeat the program of question 2 to calculate the area and perimeter of Square, Rectangle and Triangle.
4. Write a C++ program to find the largest number of two different integer numbers A, and B. Print the result on the screen.
5. Write a C++ program to first find the largest number of three different integer numbers A, B, and C, and then print the result on the screen. By using:

   (a) if statement only

   (b) if….else… statement only

   (c) Nested if statement,

6. By using if statement, demonstrate the 4 mathematical operations: addition, subtraction, multiplication, and division on two input numbers X and Y. In this program, a letter A, S, M or D defines the operation to be performed on the two entered numbers.
7. By using the switch statement, write a C++ program to demonstrate the 4 mathematical operations: addition, subtraction, multiplication, and division on two input numbers X and Y. In this program, a letter +, -, * or / defines the operation to be performed on the two numbers.
8. Write a C++ program to print the Grade of students based on their scores. These grades are as follows:

(i) for scores less than 50, the grade is Failed,

(ii) for scores greater than or equal to 50 and less than 65, the grade is Passed,

(iii) for scores greater than or equal to 65 and less than 75, the grade is Good,

(iv) for scores greater than or equal to 75 and less than 85, the grade is Very Good,

(v) for scores greater than or equal to 85, the grade is Excellent.

9. Write a temperature conversion program that gives the user an option of converting Fahrenheit to Celsius or Celsius to Fahrenheit. Then carry out the conversion result on the screen.

Note that, temperature in Fahrenheit = temperature in Celsius multiplied by 9/5+ 32 means: (F=C*9/5 + 32).

10. Write a C++ program to print on the screen the series of the numbers from 1 to 50.
11. Write a C++ program to print on the screen the sum and the average of a series of numbers from 50 to 100.
12. Write a C++ program to first input an integer number N from the keyboard and then print on the screen the sum of the even numbers between 1 and N.
13. Write a C++ program to first input an integer number N from the keyboard and then print on the screen the count of numbers divisible by 5 between 1 and N.
14. By using for loop; write a C++ program to calculate the factorial of a given number n that inputs from the keyboard.

Rewrite the program using the

(i) while loop and

(ii) do…while loop.

15. Write a C++ program to print a series of numbers (1, 2, 3, …, N) and its square and its cube on the screen in a table form of three columns. The first column shows the number, the second column presents the square of the number while column presents the cube of the number. N is an integer positive number entered from the keyboard.
16. By using two for loops, write a C++ program to produce the following pattern of asterisks.

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