C++ Lab Assignment 5

Basic C++ Coding

Date of Submission: 27/06/2020

1. Write a program to find the roots of and quadratic equation of type ax2+bx+c where a is not equal to zero.
2. The marks obtained by a student in 5 different subjects are input by the user. The student gets a division as per the following rules:
   Percentage above or equal to 60 - First division
   Percentage between 50 and 59 - Second division
   Percentage between 40 and 49 - Third division
   Percentage less than 40 - Fail
   Write a program to calculate the division obtained by the student.
3. Any character is entered by the user; write a program to determine whether the character entered is a capital letter, a small case letter, a digit or a special symbol. The following table shows the range of ASCII values for various characters.

Characters	ASCII Values
A – Z	65 – 90
a – z	97 – 122
0 – 9	48 – 57
special symbols	0 - 47, 58 - 64, 91 - 96, 123 – 127

4. Write a program to calculate HCF of Two given number.
5. Write a program to print out all Armstrong numbers between 1 and 500. If sum of cubes of each digit of the number is equal to the number itself, then the number is called an Armstrong number.
   For example, 153 = (1 * 1 * 1) + (5 * 5 * 5) + (3 * 3 * 3)
6. Write a program to print Fibonacci series of n terms where n is input by user : 0 1 1 2 3 5 8 13 24 .....
7. Write a program to calculate the sum of following series where n is input by user.
   1 + 1/2 + 1/3 + 1/4 + 1/5 +……1/n
8. Compute the natural logarithm of 2, by adding up to n terms in the series
   1 - 1/2 + 1/3 - 1/4 + 1/5 -... 1/n
   where n is a positive integer and input by user.
9. Write a program to compute sinx for given x. The user should supply x and a positive integer n. We compute the sine of x using the series and the computation should use all terms in the series up through the term involving x^n
   sin x = x - x^3/3! + x^5/5! - x^7/7! + x^9/9! .....
10. Write a program to compute the cosine of x. The user should supply x and a positive integer n. We compute the cosine of x using the series and the computation should use all terms in the series up through the term involving x^n
    cos x = 1 - x^2/2! + x^4/4! - x^6/6! .....