

Assignment

Paper code: CSC-HC-1016: Programming Fundamentals using C/C++

Last date of submission: 20-12-2020

1. Write a program to print the sum and product of digits of an integer.
2. Write a program to reverse a number.
3. Write a program to compute the sum of the first n terms of the following series

$$S = 1 + 1/2 + 1/3 + 1/4 + \dots$$

4. Write a program to compute the sum of the first n terms of the following series

$$S = 1 - 2 + 3 - 4 + 5 - \dots$$

5. Write a function that checks whether a given string is Palindrome or not. Use this function to find whether the string entered by user is Palindrome or not.
6. Write a function to find whether a given no. is prime or not. Use the same to generate the prime numbers less than 100.
7. Write a program to compute the factors of a given number.
8. Write a macro that swaps two numbers. Write a program to use it.
9. Write a program to print a triangle of stars as follows (take number of lines from user):

```
*  
***  
*****  
*****  
*****
```

10. Write a program to perform following actions on an array entered by the user:
 - i) Print the even-valued elements
 - ii) Print the odd-valued elements
 - iii) Calculate and print the sum and average of the elements of array
 - iv) Print the maximum and minimum element of array
 - v) Remove the duplicates from the array
 - vi) Print the array in reverse order

The program should present a menu to the user and ask for one of the options. The menu should also include options to re-enter array and to quit the program.