Jadavpur University
Session 2021-2022, Odd Semester
Computer Programming and Numerical Methods
A3 Group, BCSE 1

Console I/O and Conditional Statements

1. Write a C program that reads two values from the keyboard, swaps their values and prints out the result.

2. If a three-digit integer is input through the keyboard, write a program to calculate the sum of its digits. (Hint: Use the modulo operator '%')

3. Input two integer numbers and divide the larger number by the smaller one. Then display the result using printf() function as a fractional number first and then as a real valued number. (Example: 9 divided by 5 shall yield " 4/5" and "1.8" respectively.)

4. Write a C program which accepts basic salary as input and prints the gross salary, which is the sum of the basic, dearness allowance (60% of basic salary), and house rent allowance (15% of basic salary).

5. Any year is input through the keyboard. Write a program to determine whether the year is a leap year or not. (Hint: Use the % (modulus) operator)

6. Write a program to check whether a triangle is valid or not, when (i) the three angles of the triangle are entered through the Keyboard (ii) three sides of the triangle are entered through the keyboard.

7. Given three points (x1, y1), (x2, y2) and (x3, y3), write a program to check if all the three points fall on one straight line.

8. Given the coordinates (x, y) of a center of a circle and its radius, write a program which will determine whether a point lies inside the circle, on the circle or outside the circle. (Hint: #include <math.h>. Use sqrt( ) and pow( ) functions)

9. Any character is entered through the keyboard, write a program to determine whether the character entered is a capital letter, a small case letter, a digit or a special symbol.

10. Given as input an integer number of seconds, write a program to print as output the equivalent time in hours, minutes and seconds. Recommended output format is something like 7322 seconds is equivalent to 2 hours 2 minutes 2 seconds.