I B.TECH

PROGRAMMING WITH C LAB

Assignment Set-I

1. Write a program to accept the distance between two cities (in kilometers) then convert and print this distance in meters, feets, inches and centimeters.

2. According to the Gregorian calendar, it was Monday on the date 01/01/1900. Write a program to find out what is the day on 1st January of the given year

3. Write a program to accept three numbers and display the following menu 1.Product 2.Smallest number 3.Middle number 4.Biggest number. Accept user choice and display the related output.

4. Any year is entered through the keyboard, write a program to determine whether the year is leap or not using conditional operator.

5. Write a program to find the range of a set of numbers. Range is the difference between the smallest and biggest number in the list.

6. If a n-digit number (+ve integer) is input through the keyboard, write a program to calculate the sum of its digits.

7. If the three sides of a triangle are entered through the keyboard, write a program to check whether the triangle is isosceles, equilateral, scalene or right angled triangle.

8. Write a program that reads a set of integers and then finds and prints the sum of the even and odd integers.

9. A library charges a fine for every book returned late. For first 5 days, the fine is 50 paise. For 6-10 days fine is one rupee and above 10 days fine is 5 rupees. If you return the book after 30 days your membership will be cancelled. Write a program to accept the number of days the member is late to return the book and display the fine or the appropriate message.

10. A university has the following rules for a student to qualify for a degree with A as the main subject and B as the subsidiary subject:
    (a) He should get 55 percent or more in A and 45 percent or more in B.
    (b) If he gets less than 55 percent in A he should get 55 percent or more in B. However, he should get at least 45 percent in A.
    (c) If he gets less than 45 percent in B and 65 percent or more in A he is allowed to reappear in an examination in B to qualify.
    (d) In all other cases he is declared to have failed.
    Write a program to receive marks in A and B and Output whether the student has passed, failed or is allowed to reappear in B.

11. Write a program to find the octal and hexa decimal equivalent of the entered decimal number.

12. Write a program to compute e^x series ($1+x+x^2/2!+x^3/3!+$ up to n terms) for given x value

13. Write a program to add first ‘n’ terms of the following series using a **for** loop:

$$\frac{1}{1!} + \frac{2}{2!} + \frac{3}{3!} + \ldots\ldots$$

14. Write a program to accept a number in decimal format and convert it into a ROMAN Number. (Note: Roman numerals are I-1, V-5, X-10, L-50, C-100, D-500 and M-1000). For example If input is 54 then output is LIV. If input is 113 then output is CXIII.

15. Write a program to produce the following output for an n*n pattern (For example if n is 4 then the output will be as shown below)

1 1 1 1
1 0 0 1
1 0 0 1
1 1 1 1

16. Write a program to print numbers up to ‘N’ value which are not divisible by 3 or 5

17. Write a program to display the strong numbers within a given range where a strong number is the sum of factorials of individual digits of that number. For example 145 is a strong number (1!+4!+5!=1+24+120=145).

18. Write a program to find the maximum number of times repeated element in the given array (break the ties by selecting the maximum one)

19. Write a program which takes 2 arrays (say, A and B) of 10 integers each and another array (Say, C) with 20 integers. The program should store in C by appending the array B with A. The first 10 integers of C from array A, the latter 10 integers are from B. Then the program should display the array C.

20. Write a program to input N values into array and generate the cumulative sum into another array. (For example, input array is A[0] to A[N-1]. The output array must be Sum[0]=A[0], Sum[1]= A[0] + A[1], Sum[2] = A[0] + A[1] + A[2]., and so on). Optimize the computation.