APC: Cycle Sheet-I

Using if statement only

1. Get a number from user. If the number is less than or equal to 10. Print the message "good".

2. Write a program which takes a character input and checks whether it is vowel or consonant
3. Read three numbers from the user and find the biggest of three using simple (multiple) if statements.

Using if … else statement only

1. Write a c program to check given year is leap year or not.

2. The National Earthquake Information Center has the following criteria to determine the earthquake damages. Here is the given Richter scale serve as an input data and the characterization as output information.
    - RICHTER NUMBER (N).....CHARACTERIZATION
    - N<5.0----------little or no damage
    - 5.0<=N<5.5----------some damage
    - 5.5<=N<6.5. ----------serious damage
    - 6.5<=N<7.5----------Disaster
    - ----------Higher Catastrophe

Using while loop only

1. Write a c program to check given number is Armstrong number or not.

2. Write a c program to check given number is palindrome number or

3. Write a C program to convert a binary number to decimal number.

Using For loop only

1. Write a C program to find out the sum of series 1^2 + 2^2 + …. + n^2

2. Write a C program to read the age of 100 persons and count the number of persons in the age group 50 to 60. Use for and continue statement

3. Write a C program to calculate and print the sum of first 5 terms of following:
/1+ (1+2) + (1+2+3) + (1+2+3+4) +

4. Write a C program to print the following series

1
2 3
4 5 6
7 8 9 10

Using Swith Statements only

1. Write a program to read 3 digit numbers and print the digits in words using switch case
2. Write a program to count the number of vowels in a string using switch-case control structure

3. Write a menu driven program to perform mathematical functions like, 1.sin(x), 2.cos(x), 3.tan(x), 4.log(x), 5.log10(x), 6.sqrt(x). Using switch case. Read x from the user.
   Continue the menu until the user says no using go to.

4. Write a C Program to read student's grade from keyboard from 1 to 5) and prints it's description.1.Fail 2.Bad 3.Good 4.VeryGood 5.Excellent ,default: false grade

5. Get a single digit number from the user (0-9) one after another, until the user wishes. Finally display the count of each numbers and display it using switch and goto.

Challenging C Programs

1. Write a C program to display alphabets as given below
   az by cx dw ev fu gt hs ir
   jq kp lo mn nm ol pk qj ri
   sh tg uf ve wd xc yb za

2. Write a program to compute the value of Eulers number e, that is used as the base of natural logarithms.

3. Use the following formula. //e=1+1/1!+1/2!+1/3!+.....+1/n!.
   using a suitable loop construct.

4. Write programs to evaluate the following functions to 0.0001% accuracy. sinx =x-3/3!+x5/5!-x7/7!+…….

5. Write a C program, for all positive integers i,j,k, and l from 1 through 50, finds and /prints all combinations of i,j,k and l such that i+j+k=l and i < j < k < l.

6. Write a C program to print all integers that are not divisible by 2 or 3 and lie between 1 and 100. Program should also account /the number of such integers and print the result

7. Given a set of 10 two-digit integer containing both positive and negative values, write a program using for loop to compute the sum of all positive values and print the sum and the number of values added. The C program should use scanf to read the values and terminate when the sum exceeds 999. Do not use goto statement.

8. The equation x2+y2 = r2 represents a circle with center at origin and radius r. Write a C program that reads r from the keyboard and prints the number of points with integer coordinated that lie within the circle

9. If a number 972 is entered through the keyboard, your program should print "Nine Seven Two". Write a C program such that it does for any positive integer

10. The cost of a Scooter is Rs25000/-. Three optional accessories are supplied at different costs as follows. Mirror:Rs.85 Crash Guard:Rs225 Side box: Rs 300 If A,B, and C represents the three accessories, the total cost of the scooter is 25000+A*85+B*225+C*300 where A,B and C are either 0 or 1 depending upon whether the option is required or not. Write a C program to print the total cost as per the illustration given below.

Base Price	Mirror	Crash Guard	Side box	Total
25000	0	0	0	25000
25000	0	0	1	25300
25000	0	1	0	25225
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
25000	1	1	1	25610

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