

**Class Test on Loops and Conditional Statements**

1. Ramesh's basic salary is input through keyboard. His DA is 40% of basic salary, and HRA is 20% of basic salary. Write a program to calculate his gross salary.
2. If the marks obtained by a student in 5 different subjects are input through keyboard, Write a program to find out the aggregate marks and % obtained by the student. Assume max marks in each subject is 100. Output the percentage and class as follows:

Percentage	Class
<40	Fail
40<=<50	Average
50<=<60	Third class
60<=<70	Second class
70<=<85	First class
85<=<100	Distinction

3. Length and breadth of a rectangle, radius of a circle, and length of 3 sides of a triangle are input through keyboard. Write a program to calculate area and perimeter of the rectangle, area and circumference of the circle, and area of a triangle.
4. Write a program to receive Cartesian co-ordinates (x,y) of a point and convert them to polar co-ordinates (r,  $\theta$ ). Hint:  $r = \sqrt{x^2 + y^2}$  and  $\theta = \tan^{-1}y/x$
5. Consider a currency system in which there are notes of 7 denominations, namely, Re. 1, Rs. 2, 5, 10, 50, 100. If a sum of Rs. N is entered through the keyboard, Write a program to compute the smallest number of notes that will combine to give Rs. N.
6. Write a C program using switch to check (a) to check how many are positive and negative numbers in an array of numbers (b) to check how many are even or odd in an array of numbers (c) to check whether the entered year is leap year or not.
7. Write a C program to read the age and Gender of a candidate and determine whether he/she is eligible for casting his/her own vote.

8. Write a C program to accept a coordinate point in a XY coordinate system and determine in which quadrant the coordinate point lies.
9. Write a C program to check whether a triangle is Equilateral, Isosceles or Scalene.
10. Write a C program to check whether a character is an alphabet, digit or special character. If it is an alphabet, determine whether it is a vowel or a consonant.
11. Write a program in C to display n terms of natural number and their sum.
12. Write a program in C to display the cube of the number upto given an integer.
13. Write a program in C to find the prime numbers within a range of numbers.
14. Write a program in C to display the first n terms of Fibonacci series.
15. Write a program in C to find the number and sum of all integer between 100 and 200 which are divisible by 9.
16. Write a program in C to convert a decimal number into binary and vice-versa using function and while loop.
17. Write a C program to find HCF and LCM of two numbers.
18. Write a c program to find out the sum of an A.P. series.
19. Write a C program to enter a number and print it in words.
20. Write a C program to swap first and last digits of a number.