Assignment 4:

Decision Making and Branching

1. Write a C program to find the largest among three numbers using else-if ladder.
2. Write a C program to enter three sides of a triangle and check whether it is an Equilateral, an Isosceles or a Scalene Triangle.
3. In an examination, the grades are awarded to the students in 'Science' according to the average marks obtained in the examination.

Marks	Grades
80% and above	Distinction
60% or more but less than 80%	First Division
45% or more but less than 60%	Second Division
40% or more but less than 45%	Pass
Less than 40%	Promotion not granted

   Write a C program to input marks in Physics, Chemistry and Biology. Calculate the average marks. Display the average marks and the grade obtained.
4. Write a C program to input three unequal numbers and display the second smallest number.
   Sample input: 65,41,98
   Sample output: 65
5. Write a C program to enter three numbers and a character. Find and display sum of the numbers if the given character is 's' and product of the numbers if the given character is 'p'. The program displays a message "Invalid Character" if the user enters a letter other than 's' or 'p'.
6. Write a C program to enter a number. If the number is positive even, display three succeeding even numbers. If the number is negative odd, display three preceding odd numbers otherwise, display the message 'Number is neither a positive even nor a negative odd'.
   Sample Input: -21
   Sample Output: -23, -25, -27
   Sample Input:34
   Sample Output: 36,38,40
7. Write a C program to enter two unequal numbers. If the first number is greater then display square of the smaller number and cube of the

greater number otherwise, vice-versa. If the numbers are equal, display the message 'Both the numbers are equal'.

8. The State Electricity Board calculates the electricity bill for their consumers according to the units consumed (per month) as per the given tariff.

Units Consumed	Charges
Up to 100 units	Rs. 1.80/unit
More than 100 units and up to 300 units	Rs. 2.30/unit
More than 300 units and up to 500 units	Rs. 2.80/unit
More than 500 units	Rs. 3.50/unit

Write a C program to input consumer number and units consumed. Calculate and display the electricity bill and consumer number.

9. Write a C program to enter an integer number as input and check whether the number entered is a one digit number, a two digit number or a three digit number. Now perform these tasks:
   - If it is a one digit number then display its square.
   - If it is a two digit number then display its square root.
   - If it is a three digit number then display its cube root.

Otherwise, display the message "The number entered is more than three digits".

10. Write a C program to accept the length and breadth of a rectangle. Calculate and display the area, perimeter or diagonal of the rectangle as per the user's choice.

11. Write a C program to accept two angles. Calculate and display whether they are 'Complementary Angles' or 'Supplementary Angles' as per the user's choice.
   [Hint: Enter 'c' for complementary or 's' for supplementary]

12. Write a C program that displays the results of the following evaluations based on the choice entered by the user.
   a) Square of the number
   b) Cube of the number
   c) Square root of the number
   d) Cube root of the number