

1. Write a program to input a float value representing the radius of a circle. Calculate and display the area and circumference of the circle using appropriate data types. Ensure precision up to 2 decimal points.

2. Write a program to evaluate the expression:

$$\text{result} = (a + b \times c - d / e)^2$$

Take the values of `a`, `b`, `c`, `d`, and `e` as input from the user, and display the result.

3. Write a program to input a number and check if it is a prime number using nested `if` statements. Avoid using loops for simplicity
4. Write a program to demonstrate the difference between post-increment (`i++`) and pre-increment (`++i`) operators.
5. Write a program to input 10 integers into an array. Calculate and display the sum of all even numbers and the product of all odd numbers in the array.
6. Write a program to input a 3x3 matrix and display the transpose of the matrix. The program should swap rows and columns to compute the transpose.
7. Write a program to input a string and count the number of vowels, consonants, digits, and special characters in it. Use appropriate conditions to classify each character.
8. Write a program to print the following pattern for a given number of rows (n):

...

1

1 2

1 2 3

1 2 3 4

9. Write a program to demonstrate dynamic binding in C++ using function pointers. Implement two functions, `add` and `subtract`, and use a function pointer to call one of them dynamically based on user input.
10. Write a program that accepts two integers and an operator (`+`, `-`, `*`, `/`) as input, and passes them to a function that performs the appropriate operation and returns the result. Display the result in the main function.