

Practice Problems on Loops

Topic: Loops in C Programming

Questions

Q1. Power Calculation:

Write a C program to determine the value of x^n , where both x and n are user inputs. Use a loop to perform the repeated multiplication.

Q2. Summation of Powers:

Write a C program to find the sum of the following series, where both x and n are user inputs:

$$S = x + x^2 + x^3 + \cdots + x^n$$

Display the total sum at the end.

Q3. Prime Numbers in a Range:

Write a C program to find and display all prime numbers between two numbers n and m , where both are user inputs. Assume $n < m$.

Q4. Exponential Series Sum:

Write a C program to find the sum of the following series:

$$S = 1 + \frac{x}{1!} + \frac{x^2}{2!} + \frac{x^3}{3!} + \cdots + \frac{x^n}{n!}$$

Here, both x and n are user inputs.