Lab -1
Basic C Programs

Q1. Print "Hello, World!"

Q2. Swap Two Numbers

Scenario: A cashier mistakenly enters two values in reverse. Write a program to swap them.

Q3. Check Even or Odd

Scenario: A billing machine checks if a customer's token number is even or odd.

Q4. Find Largest of Three Numbers

Q5. Simple Calculator (switch case)

Q6. Factorial of a Number

Q7. Fibonacci Series (first n terms)

Q8. Reverse a Number

Q9. Palindrome Number Check

Scenario: ATM checks if PIN entered forward = reverse.

Q10. Count Digits in a Number

Q11. Sum of Digits

Q12. Check Prime Number

Q13. Array – Find Maximum Element

Q14. String – Count Vowels

Q15. Scenario – Electricity Bill Calculation

Scenario: A company charges electricity bill as:

- For first 100 units: ₹5/unit
- Next 100 units: ₹7/unit
- Above 200 units: ₹10/unit

Q16. Factorial using Recursion

Problem: Write a recursive function to calculate the factorial of a given number.

Q17. Fibonacci Series using Recursion

Problem: Print the first n Fibonacci numbers using recursion.

Q18. GCD (Greatest Common Divisor) using Recursion

Scenario: A system needs to simplify fractions, so GCD of two numbers is required.

Q19. Sum of Digits using Recursion

Problem: Find the sum of digits of a number using recursion.

Q20. Recursive Binary Search

Scenario: A library system searches for a book ID in a sorted array of IDs. Implement binary search using recursion.