C Basics to Loops – 50 Beginner-Level Word Problems

Input/Output & Variables

1. Write a program to display “Hello, World!” on the screen.
2. Accept a user’s name and print a message: “Hello, [Name]!”.
3. Read two integers from user input and display their sum.
4. Input two floating-point numbers and print their product.
5. Read the radius of a circle and print its area (use $\pi = 3.14$).
6. Take the length and width of a rectangle and print its perimeter.
7. Swap the values of two variables entered by the user.
8. Convert temperature from Celsius to Fahrenheit.
9. Calculate and display a student’s average marks of five subjects.
10. Read a distance in kilometers and print its equivalent in meters, centimeters, and millimeters.

Data Types & Operators

11. Input any character and display its ASCII value.
12. Take two numbers and display the result of all arithmetic operations (+, -, *, /, %).
13. Input a number and print its square and cube.
14. Read the sides of a triangle and calculate its area.
15. Accept a number and print its absolute value (no abs() function).
16. Given two numbers, print the larger number using an if statement.
17. Find the remainder of dividing one integer by another.
18. Check whether an integer is positive, negative, or zero.
19. Print the value of an expression using all basic arithmetic operators.
20. Find the result of a logical AND and OR operation using two boolean variables.

Conditionals (if, if-else, else-if, switch)

21. Check if a number is even or odd.
22. Input a year and check if it’s a leap year.

23. Read age and determine if the user is a minor, adult, or senior citizen.
24. Take three numbers and print the largest one (nested if-else).
25. Determine if a character entered by the user is a vowel or consonant.
26. Calculate grade based on marks (>=90: A, >=75: B, >=60: C, else D).
27. Given a number, print “Positive”, “Negative”, or “Zero”.
28. Input a month number and print the number of days in that month (use switch-case).
29. Check if a character is uppercase, lowercase, digit, or special character.
30. Write a calculator program using switch-case that adds, subtracts, multiplies, or divides two numbers.

Ternary Operator

31. Use the ternary operator to print if a number is even or odd.
32. Assign the maximum of two numbers using a ternary operator.
33. Check eligibility to vote (age >=18) with a ternary operator.
34. Find and print the smallest of three numbers using nested ternary operators.
35. Print whether a number is positive, negative, or zero using the ternary operator.

Loops (for, while, do-while)

36. Print the first n natural numbers.
37. Print the multiplication table of a number entered by the user.
38. Calculate the sum of numbers from 1 to n.
39. Print all even numbers between 1 and 100.
40. Find the factorial of a given number.
41. Display the Fibonacci sequence for n terms.
42. Reverse a given integer using a loop.
43. Count the number of digits in a given number.
44. Find the sum of digits of an integer.
45. Display all prime numbers between 1 and n.
46. Check if a given number is a palindrome (reads the same backward).
47. Compute the power of a number (base^exponent) without using pow().
48. Given n numbers, count and print how many are zeros, positive or negative numbers

49. Display the table of squares for the first n numbers.
50. Compute the sum of an alternating harmonic series up to n terms.

Note:

This set of problems covers the **basic fundamentals of C programming** and focuses on beginner-level logic and syntax. The exercises are not difficult and are designed to provide a gentle introduction to the language. If these tasks are completed comfortably, a dedicated PDF document with further challenges and solutions can be provided as the next step.