

C Programming Word Problems

1. Write a program that calculates the total cost of items in a shopping cart. If the total cost exceeds \$100, the user gets a 10% discount. Write the logic in C to calculate the final amount to be paid.
2. A teacher needs to calculate the average score of 5 students in a class. Write a program that takes 5 scores as input and outputs the average score.
3. Write a program that asks the user to input a temperature in Celsius and converts it to Fahrenheit using the formula: $F = (9/5) * C + 32$.
4. A company wants to calculate the annual salary of an employee given their monthly salary. If the employee has been with the company for more than 5 years, they get a bonus of 10% on their annual salary. Write a C program to calculate the final salary.
5. Write a program that asks the user for their age and then prints out whether they are eligible to vote (age 18 or older) or not.
6. Write a program that calculates the simple interest on a savings account. The program should take the principal amount, interest rate, and the number of years as input.
7. A shopkeeper offers a discount of 5% on purchases above \$200. Write a program that calculates the final amount a customer has to pay after discount.
8. Write a C program that converts a given number of days into years, months, and days.
9. A bakery sells loaves of bread for \$3 each. Write a program to calculate the total cost of purchasing a given number of loaves.
10. Write a program to find the maximum of three numbers entered by the user.
11. Write a program that asks for a year and determines if it is a leap year or not.
12. Write a program that asks the user to input a number and then prints out whether the number is positive, negative, or zero.
13. Write a program to calculate the area of a rectangle given its length and breadth.
14. Write a program that converts a given distance in kilometers to miles.

15. Write a program that checks if a character entered by the user is a vowel or a consonant.
16. Write a program to calculate the factorial of a given number using a loop.
17. Develop a program that calculates the sum of all even numbers between 1 and 100.
18. Write a program that prints the multiplication table for a number entered by the user.
19. Write a program that calculates the total marks and percentage of five subjects entered by the user and determines the grade based on the percentage.
20. Write a program that reverses the digits of an integer entered by the user.
21. Write a program to find the greatest common divisor (GCD) of two numbers using the Euclidean algorithm.
22. Develop a program that checks if a given number is a prime number.
23. Write a program to print the Fibonacci series up to a given number.
24. Write a program that calculates the sum of the digits of a given number.
25. Write a program that reads a string and checks if it is a palindrome.
26. Write a program to sort a list of numbers entered by the user.
27. Develop a program that finds the largest and smallest numbers in a list entered by the user.
28. Write a program to calculate the power of a number using a loop (e.g., $\text{base}^{\text{exponent}}$).
29. Write a program that reads a sentence and counts the number of words in it.
30. Write a program that checks if a number is an Armstrong number.
31. Write a program to merge two lists of numbers entered by the user.
32. Write a program that finds the second largest number in a list entered by the user.
33. Develop a program that removes duplicate numbers from a list entered by the user.
34. Write a program to find the sum of all numbers in a matrix of numbers entered by the user.
35. Write a program that checks if two strings are anagrams.
36. Write a program that implements a basic calculator that can add, subtract, multiply, and divide two numbers entered by the user.
37. Develop a program that calculates the total price of items bought in a store based on their

quantities and prices entered by the user.

38. Write a program to calculate the average temperature over a week based on daily temperatures entered by the user.

39. Write a program that converts a given time in seconds to hours, minutes, and seconds.

40. Develop a program that simulates a simple banking system where users can deposit, withdraw, and check their balance.

41. Write a program that calculates the BMI (Body Mass Index) of a person based on their weight and height entered by the user.

42. Write a program to convert a given number into its binary equivalent.

43. Develop a program that simulates a voting system where users can vote for a candidate and the program counts the votes.

44. Write a program that finds the difference between two dates entered by the user.

45. Write a program that determines the day of the week for a given date entered by the user.

46. Develop a program that calculates the final grade of a student based on their marks in multiple subjects.

47. Write a program to calculate the distance between two points (x_1, y_1) and (x_2, y_2) entered by the user.

48. Write a program that calculates the monthly installment of a loan based on the principal, interest rate, and number of months.

49. Develop a program that determines if a given year is a leap year or not.

50. Write a program that simulates a basic ATM where users can check their balance, deposit, and withdraw money.