Practice Problem

Prerequisite Assignment for DSA

- 1. Write a program to calculate average of three integers. Numbers are given by the user.
- 2. Write a program to calculate circumference of a circle.
- 3. Write a program to calculate simple interest.
- 4. Write a program to calculate volume of a cuboid.
- 5. Write a program to ask user about the cost price and selling price banana per dozen. Calculate the profit or loss earned upon selling 25 bananas.
- 6. Write a program to input a character from the user and print its ASCII code.
 - 7. Write a program to input an ASCII code from the user and print its corresponding character.
 - 8. Write a program to input three characters from the user and display characters with their corresponding ASCII codes.
 - 9. WAP to take date as an input in below given format and convert the date format and display the result as given below.
 - User Input date format "DD/MM/YYYY" (27/11/2022)
 Output format "Day DD, Month MM, Year YYYY"
 (Day 27, Month 07, Year 2022)
 - 10. WAP to take time as an input in below given format and convert the time format and display the result as given below.
 - User Input date format "HH:MM"

Conditional Statements:

11. Write a program to input three characters from the user and display characters with their corresponding ASCII codes.

- 12. Create a program that takes a person's age as input and classifies them into different age groups (e.g., child, teenager, adult, senior).
- 13. Develop a program that takes a student's score (0-100) as input and prints the corresponding grade (e.g., A, B, C, D, F) based on a grading scale.
- 14. Write a program that reads two integers from the user and determines if the first integer is divisible by the second integer.
- 15. Create a program that takes the lengths of three sides of a triangle as input and determines whether the triangle is equilateral, isosceles, or scalene.
- 16. Develop a program that **converts a temperature from Fahrenheit to Celsius or vice versa based on user input**. The user should specify the type of conversion.
- 17. Write a program that takes a start year and an end year from the user and **prints all the leap years** in that range.
- 18. Write a program that takes three numbers as input and finds the middle (second largest) number.
- 19. Develop a program that takes a month (as an integer from 1 to 12) and a year as input, then prints the number of days in that month, considering leap years.
- 20. Develop a program that takes four numbers as input and prints the largest among them.
- 21. Create a program that takes a number (1-7) as input and prints the corresponding day of the week.

Loops:

- 22. Write a program to calculate sum of first N natural numbers
- 23. Write a program to calculate sum of first N even natural numbers
- 24. Write a program to calculate sum of first N odd natural numbers
- 25. Write a program to calculate sum of squares of first N natural numbers
- 26. Write a program to calculate sum of cubes of first N natural numbers
- 27. Write a program to calculate factorial of a number
- 28. Write a program to count digits in a given number
- 29. Write a program to check whether a given number is a Prime number or not
- 30. Write a program to calculate LCM of two numbers
- 31. Write a program to reverse a given number
- 32. Write a program to find the Nth term of the Fibonacci series.
- 33. Write a program to print first N terms of Fibonacci series.
- 34. Write a program to check whether a given number is there in the Fibonacci series or not.
- 35. Write a program to calculate HCF of two numbers.
- 36. Write a program to check whether two given numbers are co-prime numbers or not.
- 37. Write a program to print all Prime numbers under 100.
- 38. Write a program to print all Prime numbers between two given numbers.

- 39. Write a program to find next Prime number of a given number.
- 40. Write a program to check whether a given number is an Armstrong number or not.
- 41. Write a program to print all Armstrong numbers under 1000

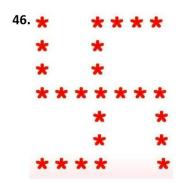
Draw this following pattern in C++

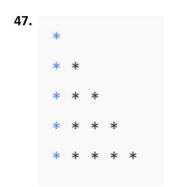


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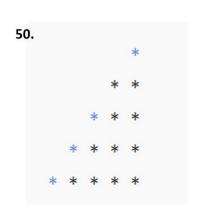
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A B C D A B C D E



51.
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54.

