**1. Arrays**

1. A shopkeeper wants to store prices of 10 items and display the highest and lowest price.
2. Write a program to input marks of 5 subjects for a student and calculate **total, average, and percentage**.
3. Create a program to store the names of 5 cities in an array and display them in reverse order.
4. A cricket team scored runs in 10 matches. Store the runs in an array and calculate the **average score**.
5. Store 20 numbers in an array and count how many are **even and odd**.
6. Input an array of integers and search for a given element (linear search).
7. Input an array of integers and sort them in ascending order.
8. Write a program to merge two arrays into a third array.
9. A class of 30 students appeared in a test. Store marks in an array and display the **highest scorer**.
10. Store daily temperatures of 7 days and display the **hottest and coldest day**.
11. Write a program to add 2 matrix
12. Write a program to multiply 2 matrix.

**2. Basic String Handling**

1. Write a program to input a string and count the number of **vowels and consonants**.
2. Input a string and check if it is a **palindrome** (e.g., “madam”, “level”).
3. Write a program to find the **length of a string** without using built-in functions.
4. Input a string and convert all lowercase letters to **uppercase**.
5. Write a program to **reverse a string** without using built-in functions.

**3. String Operations**

1. Input two strings and **concatenate** them.
2. Input two strings and check whether they are **equal or not**.
3. Write a program to count the number of **words** in a given string.
4. Input a sentence and count how many times a particular **character** occurs.
5. Input a string and replace all spaces with -.

**4. Real-Life Scenarios**

1. A library wants to store book titles. Write a program to **search for a book** by its title.
2. A school wants to generate student IDs by combining **first three letters of name + roll number**. Write a program to generate IDs.
3. Input a full name and print only the **initials** (e.g., “A. P. J. Abdul Kalam”).
4. A password system requires:

* At least 8 characters
* At least one digit
* At least one special character  
   Write a program to check whether the entered password is valid.

1. A social media app wants to count the number of **hashtags (#)** and **mentions (@)** in a post.