1. **Palindrome Check**  
   Write a C++ program to check if a given string is a palindrome, ignoring case and spaces.
   * Input:  
     "A man a plan a canal Panama"
   * Output:  
     Palindrome
2. **Rotate Matrix by 90 Degrees**  
   Write a C++ program to rotate a 2D matrix 90 degrees clockwise.
   * Input:  
     1 2 3  
     4 5 6  
     7 8 9
   * Output:  
     7 4 1  
     8 5 2  
     9 6 3
3. **Find the Nth Fibonacci Number (Dynamic Programming)**  
   Write a C++ program to find the Nth Fibonacci number using dynamic programming.
   * Input:  
     10
   * Output:  
     The 10th Fibonacci number is 55
4. **Merge Two Sorted Arrays**  
   Write a C++ program to merge two sorted arrays into a single sorted array.
   * Input:  
     Array 1: [1, 3, 5, 7]  
     Array 2: [2, 4, 6, 8]
   * Output:  
     [1, 2, 3, 4, 5, 6, 7, 8]
5. **Check for Armstrong Number**  
   Write a C++ program to check if a given number is an Armstrong number (the sum of the digits raised to the power of the number of digits equals the number itself).
   * Input:  
     153
   * Output:  
     153 is an Armstrong number
   * Input:  
     123
   * Output:  
     123 is not an Armstrong number
6. **Check for Magic Square**  
   Write a C++ program to check if a given matrix is a magic square (sum of rows, columns, and diagonals are the same).
   * Input:  
     2 7 6  
     9 5 1  
     4 3 8
   * Output:  
     The matrix is a magic square
7. **Count Frequency of Characters**  
   Write a C++ program to count the frequency of each character in a string.
   * Input:  
     "hello world"
   * Output:  
     h: 1  
     e: 1  
     l: 3  
     o: 2  
     w: 1  
     r: 1  
     d: 1
8. **Largest Subarray Sum (Kadane's Algorithm)**  
   Write a C++ program to find the largest sum of a contiguous subarray using Kadane’s Algorithm.
   * Input:  
     [-2, 1, -3, 4, -1, 2, 1, -5, 4]
   * Output:  
     The largest sum is 6
9. **Check for Anagram**  
   Write a C++ program to check if two input strings are anagrams of each other.
   * Input:  
     "listen"  
     "silent"
   * Output:  
     "listen" and "silent" are anagrams
   * Input:  
     "hello"  
     "world"
   * Output:  
     "hello" and "world" are not anagrams
10. **Find LCM and GCD of Two Numbers**  
    Write a C++ program to find both the LCM and GCD of two numbers using the Euclidean algorithm.

* Input:  
  12 and 18
* Output:  
  GCD: 6  
  LCM: 36