



Phase - 3

String Programs

1. Nayan bet ₹.1200 to his friend Kartik if he find frequency of each characters in given String. Whereas Dhruv bet ₹.1500 to his friend Piyush if he finds it first. Provide a C++ program to help this fellows so that they can play this interesting game.

2. Design a system in which if a length of a String is greater than 3 and less than 9, then it returns reverse of that string. Otherwise, it returns sum of each letters' ASCII value. Use C++ for building this type of system.

3. An IT company named "HAXM Pvt. Ltd." released an open competition to create a startup level User Authentication system.

This system must have these functionalities

- User can register with email and password

- User can login with proper email and password

- User can delete his/her account

Criteria for user authentication

- A password must contain at least one digit, one special symbol, one lowercase letter and one uppercase letter while user try to register

- Email and Password must be same while user login

- After user account deletion, user cannot be able to login again

Design a C++ system for this competition for the prize money ₹.2500 [Hint: You can use multiple String Arrays]



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4. A Refugee camp have shortage of registering refugees which are coming from Afghanistan. So registration team split up their register documents in two teams: One note down first name along with passport id, another one note down last name along with that passport id. Now while entering that all data as a final stage, a Computer operator needs a system which automatically merge first name and last name together as per reference of passport id. So design this type of system in C++ to help that Refugee camp.

5. An Indian Airport needs an identification system to easily extract all types of vowels, consonants, digits and spacial symbols from Highjackers' communicative messages to identify their next move. Help Indian Airlines by building a C++ program which prime purpose is to identify all string literals.

6. Design a system for "Dare to Win" game scenario. In this game, two participants have to guess any situation or work which he/she wants to be done by opposition player. So both player write their intended dare works and now a system will swap that both dare works and provide that to other opposite players. Write a C++ program to help swapping that dare works.

7. Build a C++ program which helps students that how to convert a given string in lowercase, uppercase, title case and toggle case whenever they wants by passing their choice.



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8. Build a C++ program which detects if a given word contains any vowels or not. And if it contains, then count how many total vowels are present and which they are. Also returns average value of total vowels' ASCII values'. Based on that average value, decide word's level

If $10 \leq \text{average} \leq 15$, then a word is "SMOOTHER

If $15 < \text{average} \leq 30$, then a word is "SOBER

If $\text{average} > 30$, then a word is "HARDER

If $\text{average} == 0$, then a word is "GORGEOUS"

9. Create an Instagram filter by which we can easily extract all digits and special symbols from any username. By doing so, we can retrieve a pure username with only alphabets within it. Use C++ as a prime language to do so.

10. List of some historical words by some famous Philosopher has been written in his diary. But all that words are only can be read if we put that word in front of mirror. So write a C++ program to design it.

11. Build a system which converts given message into Cyphertext by adding custom letter or ASCII value. Also provide decoding for that encoded text to understand Indian Army to secure internal communication between soldiers. Help them by creating a C++ program.