How to solve **an Online Question**

Solve **Interview Questions** Online

** Demo **

The Task:
Count the duplicate chars in a string

Your Task:
What am I doing wrong?

Why do We Need Phases?

1. You solve the wrong question
2. You miss edge cases
3. You return the wrong output => you solve the wrong question
4. I can’t see if you make a mistake in your algorithm
5. When you share the screen I can give hints, we can solve together
6. Easier for you to think
7. Easier for me to understand you

Basic **Phases**

1. Make sure you understand the question
    a. Validate with an example
        i. Input output
    b. Use specific use cases
    c. Check edge cases
        i. Is it case sensitive?
        ii. What about numbers, special characters, spaces?
        iii. Empty string
    d. input validation
2. Discuss the algo on a given example
    a. Start with simple solution that works
3. Validate your algo on a given example
4. Write the code, while verbally explaining what you do
5. Validate your code on a given example
6. Improve - clean code, optimise...

What are the Classical **Edge Cases?**

Classical **Edge Cases**

Strings

- Empty string: “”
- Lower/upper case: “MOON”, “gold”, “STrangE”, “Name”
- Duplicated char: “food”, “momo”
- Special characters: “!@#$%^&*”
  - Spaces: “ ”, “Yes we can”
- Numbers: “123”

Classical **Edge Cases**

Numbers

- Zero: 0
- One: 1
- Negative numbers: -1, -2, -100
- Duplicated numbers: [1,53, 1, 2, 53]
- Big numbers: 10000000000000000

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Let’s do it right!!

The Task:

Count the duplicate chars in a string

Solving Strategies

How to solve difficult problems?

1. Think of common strategies
2. Don’t be afraid to use brute force solutions.
3. Simplify the problem

Common Strategies

1. Sort
2. Nested loops. Iterate all the items
3. Memory allocation. Remember appearances, or calculate sums as you go along
4. Use known algorithms: DFS, BFS, Dynamic Programming…
5. Counter - count number of appearances.

Example 1

Find the common elements between 2 arrays.

Example 2

Find the common elements between 3 arrays.

Example 3

Find the common elements between 3 sorted arrays.

Simplify the Problem

Find the median char (half of the letters are smaller than it, and half are bigger) in a string.

Example: question => o

You **Practice**

1. Write a function that will receive an array of integers, and return the first number that is bigger than the sum of all it's previous numbers

You **Practice**

Largest of 3

Without using built-in functions.

More practice in the future!!