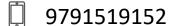


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## RAJALAKSHMI ENGINEERING COLLEGE

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#### Counting

- Counting is a very common pattern with hash maps.
- By "counting", we are referring to tracking the frequency of things.
- This means our hash map will be mapping keys to integers.
- Anytime you need to count anything, think about using a hash map to do it.

#### Counting

 Recall that when we were looking at sliding windows, some problems had their constraint as limiting the amount of a certain element in the window.

- For example, longest substring with at most k 0s. In those problems, we could simply use an integer variable curr because we are only focused on one element (we only cared about 0).
- A hash map opens the door to solving problems where the constraint involves multiple elements.

- You are given a string s and an integer k. Find the length of the longest substring that contains at most k distinct characters.
- For example, given s = "eceba" and k = 2, return 3. The longest substring with at most 2 distinct characters is "ece".

- Input
  - s = "eceba"
  - k = 2
- Output
  - 3

### Intersection of Multiple Arrays

 Given a 2D array nums that contains n arrays of distinct integers, return a sorted array containing all the numbers that appear in all n arrays.

For example, given nums = [[3,1,2,4,5],[1,2,3,4],[3,4,5,6]], return
 [3, 4]. 3 and 4 are the only numbers that are in all arrays.

#### Check if All Characters Have Equal Number of Occurrences

 Given a string s, determine if all characters have the same frequency.

■ For example, given s = "abacbc", return true. All characters appear twice. Given s = "aaabb", return false. "a" appears 3 times, "b" appears 2 times. 3 != 2.

# Queries?

# Thank You...!