

Netflix Cracker Sheet

Note: [To Use this sheet optimally go and watch the "Cracking the Netflix coding interview🔥: The definitive prep guide" video on Debug Buzz Channel.

Link - https://youtu.be/3pc_ieOZ4hM]

1)

Given two strings a and b we need to add ith elements from both. Time limit 0.5secs (AFAIR). (Input size limits I do not remember)

Eg1:

a = "99"

b = "99"

ans = "1818"

Eg2:

a = "9"

b = "11"

ans = "110"

2)

Given an array of integers and an integer K, find the number of subarrays with at least K distinct integers.

Example 1:

array = [1, 2, 1, 1] and k = 2

output=2; {1,2} and {2,1} are only possibilities

Example 2:

array = [1, 2, 3, 4, 1] and k = 4

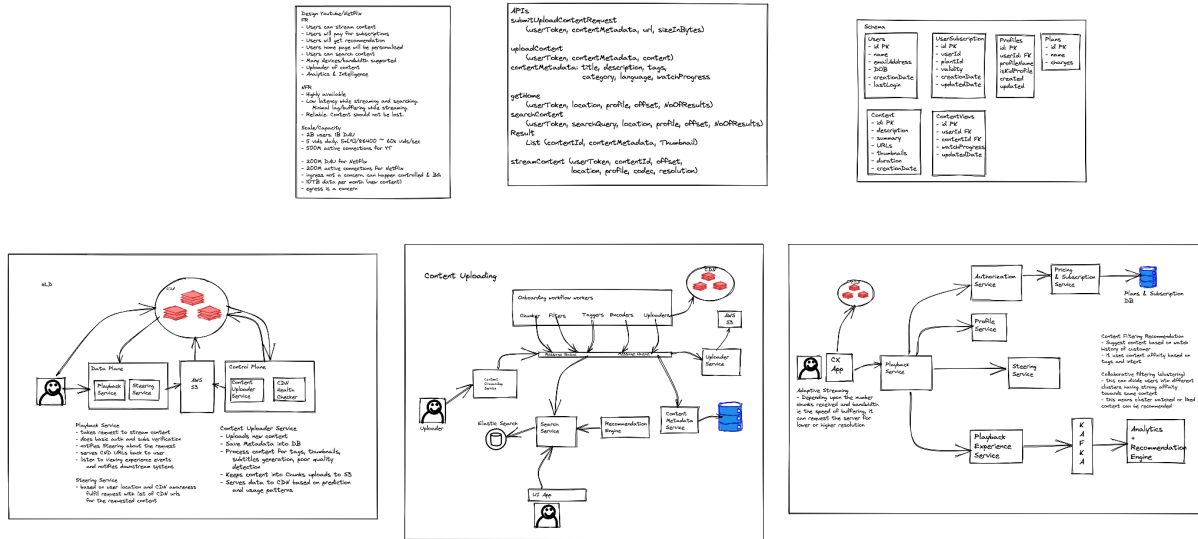
output=6; {1, 2, 3}, {1, 2, 3, 4}, {1,2,3,4,1}, {2,3,4}, {2,3,4,1} and {3,4,1} are the only possibilities. Note that {1,2,3,4,1} is valid because it still has 3 distinct integers.

3)

design a system that counts how minutes watched on particular video, number of video watched completely and Category of videos most watched.

4)

Netflix System Design -



5)

2. Palindromic Sequence

A *palindrome*, a *subsequence* and a *score* are defined as follows:

- A *palindrome* is a sequence of characters that reads the same forward and backward. For example, *madam* and *dad* are palindromes, but *eva* and *sam* are not.
- A *subsequence* is a group of characters chosen from a list while maintaining their order. For instance, the subsequences of *abc* are *[a, b, c, ab, ac, bc, abc]*
- The *score* of string *s* is the maximum product of the lengths of two non-overlapping palindromic subsequences of *s* that will be referred to as *a* and *b*. In other words, $score(s) = \max(length(a) * \max(length(b)))$.

Given a string of characters *s*, calculate its score using the formula above.

Example

```
Index 0123456
s = "attract"
```

- The Palindromic subsequences are *[a, t, r, c, aa, tt, ata, ara, ttt, ttt, tct, atta]*.
- The two non-overlapping palindromic subsequences with the maximum score are *atta*, *[atta] = 4* and *[c]* or *[t] = 1*, $4 * 1 = 4$.
- Note that the subsequence *atta* overlaps the subsequence *r*, so only one of them be chosen.

Function Description

Complete the function *maxScore* in the editor below.

maxScore has the following parameters:

- string s*: a string to process

Returns:

- int*: an integer that denotes the maximum possible score of *s*.

Constraints

- $1 < |s| \leq 3000$
- Each character of *s* is in the set *ascii(a-z)*

```

Language C++ Autocomplete Ready
1 > #include <bits/stdc++.h>...
6
7
8 /*
9 * Complete the 'maxScore' function below.
10 * The function is expected to return an INTEGER.
11 * The function accepts STRING s as parameter.
12 */
13
14 int maxScore(string s) {
15
16 }
17
18 > int main()...
```

Test Results Custom Input Run Code Run Tests Submit

Returns:

int: an integer that denotes the maximum possible *score* of *s*.

Constraints

- $1 < |s| \leq 3000$
- Each character of *s* is in the set `ascii[a-z]`

► Input Format For Custom Testing

▼ Sample Case 0

Sample Input 0

STDIN	Function
Parameters	-----

acdapmpomp →	s =
"acdapmpomp"	

Sample Output 0

15

Explanation 0

- The Palindromic subsequences are $[a, c, d, p, m, o, aa, aca, ada, pmp, pmpmp]$.
- The two non-overlapping palindromic subsequences with the maximum score are $pmpmp$, $|pmpmp| = 5$ and ada or aca , $|aca| = 3$. The maximal score = $5 \times 3 = 15$.

► Sample Case 1

6)

Netflix and chill is a pretty common phrase these days. How about you share your ideas about how you'd design it if asked to do so?

Some questions to clear ambiguity :

- Q. What will be the main feature of this platform?
A. Basically it'll recommend you videos at any time of the day.
 - Q. Who are the targeted audience?
A. People all around the world.
 - Q. How will audience access it?
A. Using devices like phones, laptops, TVs, etc.
-

Functional requirements

- Users can watch videos on the platform
- Like/ dislike option
- View Count

Non-functional requirements

- The platform should be highly available
- The response time for users in different regions should be at the same level
- The platform should scale while userbase is increasing

7)

Find how many people are streaming a tv show on netflix simultaneously

8)

Reorder a linked list with all the odd indexed nodes preceding the evens.

9)

Let's say you have an array of similar json objects. Example object:

```
{
  "field1": "bar",
  "field2": 1,
  "field3": true,
  "field4": [1, 2, 3],
  "field5": {
    "nested": {
      "other": [4, 5]
    }
  }
  ...
}
```

Design a method to query this array. You have to design the code and the format of the query:

```
def search(docs, query):
    pass
```

Query examples:

- Get documents where field 1 is equal to "bar"
- Get documents where field 4 contains (or doesn't contain) 2
- Get documents where field5.nested.other contains 4
- Get docs where field3 is True
- etc.

10)

design an anonymous web app like Reddit.

- Users can upvote
- Users can downvote
- How would you combat spam?
- Extended feature: What if all of a sudden we want to turn this app into a social media network (i.e. no longer anonymous)

11)

Imagine that you have an infinite sorted list of words. Assuming that your word of interest (targeted_word) is at the K position (K is very large). You start at the position x (x less than k). If $\text{word}[x] < \text{targeted_word}$, then you move $x/2$ position, i.e. $x = x + x / 2$. What is the complexity in term of K. If it is in a log form, then what is the base of the log.

12)

Design a distributed database that syncs across 3 regions and 3 zones within the regions.

Requirement: eventually consistent system

13)

How would you design netflix recommendation engine? Like movie suggestion based on history and interest?