OA PREP

<https://prepinsta.com/bny-mellon-coding-questions-and-answers/>

<https://leetcode.com/problems/remove-k-digits/description/>

<https://www.geeksforgeeks.org/dsa/longest-sub-array-sum-k/>

<https://www.geeksforgeeks.org/dsa/maximum-path-sum-when-at-most-k-elements-can-be-picked-from-a-row/>

<https://leetcode.com/problems/number-of-valid-words-in-a-sentence/description/>  
<https://www.naukri.com/code360/interview-bundle/bny-mellon>

<https://leetcode.com/discuss/post/3532259/bny-melon-setup-hackerrank-questions-by-6g564/>

<https://drive.google.com/file/d/1OPy7d2B0Lr5l6p_Iio5FU4EhcZab2C_U/view>

<https://www.geeksforgeeks.org/problems/maximum-meetings-in-one-room/1>

https://leetcode.com/problems/maximum-gap/submissions/1702168371

\*\*Given an array of integers. The cost for this array is given as the number of times max is updated while iterating over the array. Given 3 values n(size of array), m(max. of the array), and the cost, find the number of arrays possible which have the given cost.

\*\* You are given an array of integers. What is the maximum number of elements that you can remove from this array such that their sum is positive(> 0)? Eg, [3, -5, 1, -1, 2] Here, we can remove 4 elements [3, 1, -1, 2] as their sum = 5 > 0

➢ Easy (50 Marks): Length of the longest subarray with a sum less than or equal to k.

➢ Medium (75 Marks): I don’t remember this one, but it was easy.

➢ Hard(100 Marks): We were given a total number of nodes and edges connecting each node, we had to find the sum of ceil(sqrt(no. of nodes )) in each graph.

**Practice Analogues:**

* LeetCode 991: "Broken Calculator"
* LeetCode 1348: "Tweet Counts Per Frequency" (for understanding transformations over ranges)
* Problems involving finding a "meeting point" that minimizes total distance/cost.

**Practice Analogues:**

* LeetCode 209: "Minimum Size Subarray Sum"
* LeetCode 3: "Longest Substring Without Repeating Characters"
* GeeksforGeeks: "Longest Sub-array with sum K"

https://leetcode.com/problems/minimum-moves-to-reach-target-in-grid/

<https://medium.com/%40treasuresbase954/solved-given-a-set-of-nodes-and-a-list-of-connected-pairs-determine-the-order-number-of-nodes-2a49c6aec74f>

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<https://www.geeksforgeeks.org/dsa/program-chocolate-wrapper-puzzle/>

<https://www.geeksforgeeks.org/problems/count-triplets-with-sum-smaller-than-x5549/1>

<https://drive.google.com/file/d/1OStDqOxIn0T20Dm1MnW1pQ1vfaSLG6rh/view>

Q)  
Given a Grid grid = [

["1","1","0","1","1"],

["1","1","0","0","0"],

["0","0","1","0","0"],

["0","0","0","1","1"]

]

And given a vector v= {4,2,1}

It should return ans ={1,2,1}

There are 2 islands of size 2 so return 2, only 1 island of size 1 and so on ...(75marks)  
\*\* Number of islands + size calculation of each island  
int dfs, returns size,

THEORY QUESTIONS:

\*\*Difference between Natural joins and inner join.  
\*\* Aggregate Function in SQL and explain each of them.

\*\*Difference between compiled and interpreted languages. \*\*Explain each one of them with example . Which languages do you prefer? compiled or interpreted? why?

\*\*Which algorithms are generally used in DBMS? (Searching and sorting )

\*\*Different types of Searching algorithms.

\*\*. What is hashing? Detailed discussion on hashing.

\*\* How do you implement a Graph?

\*\* Discussion on the pointer in c++

\*\* Memory leak

\*\* Discussion on Dynamic memory allocation and new operator in c++

\*\* How do you represent 2D array using pointer

\*\*Void pointer and dangling pointer

\*\*Difference between encryption and hashing

\*\* Advantages of lists over arrays

\*\* Is HTTP stateless or stateful protocol?

\*\*How do you test your website?

\*\* implementation of : 1) 4 pillars of opps 2) virtual functions , abstract classes

\*\* “I run statement – delete \* table\_name; will it delete rows one by one or all at once.?

\*\* b and b+ trees

\*\* HTTP requests, specifically the differences

between POST, PUT, and PATCH.

\*\* reverse traversals in trees

\*\* what are components? to explain what components are and then requested that I list 10 unique

RESOURCES :

1. Sorting Algos + follow up questions

**CRUX :**

Mihir :

1) database design. He asked about

the most efficient way to retrieve a person’s record from a list of volunteers

or beneficiaries. I suggested two approaches:

Hashing: Using the person’s name as the key and the index as the

value (assuming unique names).

Binary Search: If the records are sorted alphabetically, binary search

can be applied. I gave an example of indexing in SQL.

1. Sorting Algos , which one is best , with all the info and derivation of its TC using master Theorem
2. drew a binary tree and asked me to perform as many different traversals as possible. I performed Preorder, Inorder, Postorder, and Level Order traversals.   
   recursive and iterative methods.
3. HTTP requests, specifically the differences between POST, PUT, and PATCH.
4. “What if a team member dominates discussions, pushing their ideas even though you know the idea will fail?”
5. Explain a backend Endpoint
6. Dsa vs development

NISARGA KALE :

!) Sorting sorting sorting

1)Opps , Acid Properties.

\*\* Use STAR approach to explain about projects

Tvisha Vedant

\*\* try to remember the names of the panel while in ppt

* 1. Why did you prefer CPP
  2. difference between abstraction and encapsulation.
  3. Infix postfix prefix
  4. Avl trees implementation
  5. How do you earn a new technology