

"समय न लगाएँ इसमें कि क्या करना है,
वरना समय ये तय करेगा कि आपका क्या करना है।"

ARRAY DATA STRUCTURE

CONCEPTS

REQUIREMENT

PROBLEMS

APPROACH

Welcome & Vision

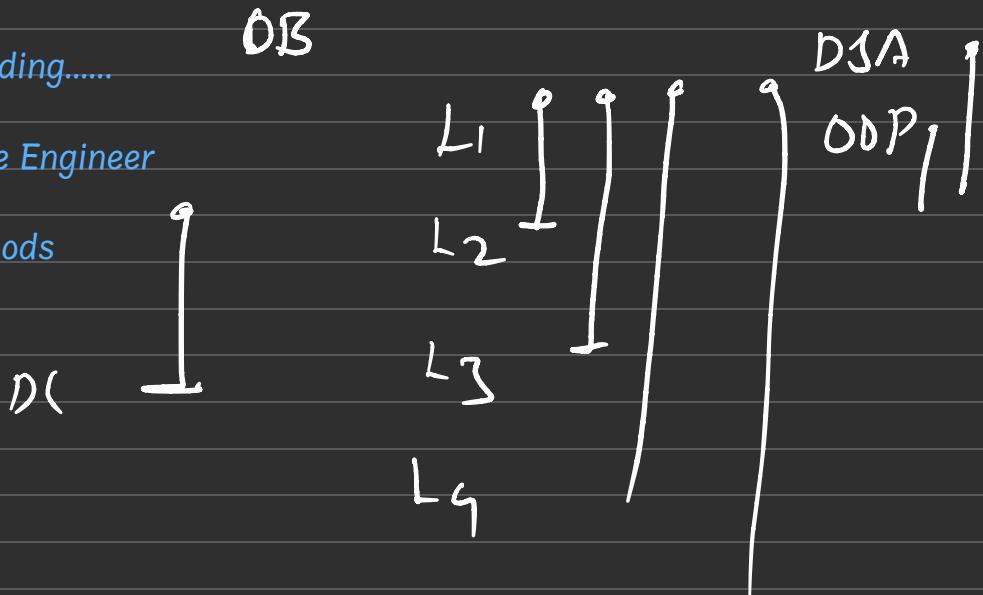
30 40 400 3hr 15

Why you started this course. — 2 WDSA → 1 DOPs → 2 WDSA

"I don't just want you to learn coding.....

Don't Mug up - You are Engineer

Change Studying methods



Course Roadmap

- ✓ Roadmap
 - ✓ HomeWork Problems
 - ✓ Class Code
 - ✓ Notes
 - ✓ Weekly Tests
 - ✓ Mega Tests (5) \Rightarrow
 - ✓ Mock Interview (3) \Rightarrow 2 individuals | Group
- pdf
code

CPP - STL

Java - Collection

sort(a^n)

Pre-requisite - STL or Collections

✓ How to Approach the problem

✓ Code Quality

int & int arr

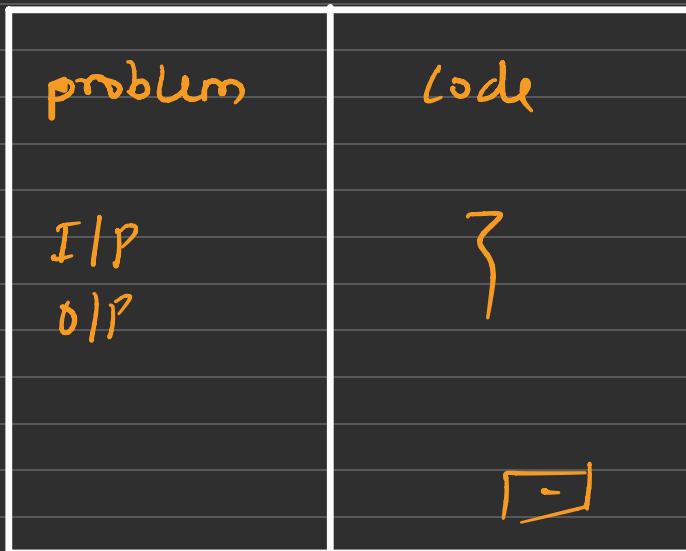
Total Time = 45 min

5 min = Read

3/5 min = Sample I/P

30 min = Logic

- X —
- Hint | Topic (10 min)
 - Solution
 - go & Read other



void sumOfTwoNo()

}

20,000

Resign

Diksha

void fun()

}

10,000 line

Siddhi

↳

Sum of two Number

sumOfTwoNumber → camel case

int arr () int num ()

maximum

Basic Math

✓ Divisors

✓ Prime Numbers

Divisor:

$$\begin{array}{r} 10 : \quad | \quad 2 \quad 5 \quad 10 \quad \underline{\text{Divisors}} \\ 1 \overline{)10} \qquad 2 \overline{)10} \qquad 5 \overline{)10} \qquad 10 \overline{)10} \\ \underline{0} \qquad \underline{0} \qquad \underline{0} \qquad \underline{0} \end{array}$$

a No. which completely divides given number,
is Divisor

$$10 \% 3 = 1$$

$\%$ = Remainder

$$9 \% 3 = 0$$

$N \rightarrow 1 \text{ to } N$

4 $4 \% 1 = i$
 $4 \% 2 = i$.
 $4 \% 3 = i$.
 $4 \% 4 = i$

$N = 100$

```
for (i=1 ; i <= N ; i++)  
    {  
        if (N % i == 0)  
            printf("%d")  
    }
```

Y

Y

Prime Number:

Number which has only 2 divisor
that is 1 & no. itself

$$(2) = 1, 2$$

$$(3) = 1, 3$$

$$(5) = 1, 5$$

$$(7) = 1, 7$$

$$(11) = (1, 11)$$

$$\boxed{\text{cnt} = 2}$$

Arrays

Why we need Array



Siddhi Diksha

x_1	x_2	x_3
x_4	x_5	x_6
x_7	x_8	x_9

— — — x_{100}

$x_{40} = \text{Me}$

$x_{55} = \text{Prachi}$

What is Array

Collection of similar elements stored in continuous memory allocation.

int = 4B

100 104 108 112 116

arr(2)

1	6	2	4	3
---	---	---	---	---

0 1 2 3 4

* (arr + 2)

* (100 + 2)

* (100 + 2 * 4)

* (100 + 8) = 108

arr(2) = 2

arr(3) = 4

What if I tell you.. There is no concept called as Array

100
|
0

Largest Element in Array



Difficulty: Basic

Accuracy: 67.48%

Submissions: 510K+

Points: 1

Average Time: 20m

Given an array **arr[]**. The task is to find the **largest** element and return it.

Examples:

Input: arr[] = [1, 8, 7, 56, 90]

Output: 90

Explanation: The largest element of the given array is 90.

Input: arr[] = [5, 5, 5, 5]

Output: 5

Explanation: The largest element of the given array is 5.

Input: arr[] = [10]

Output: 10

Explanation: There is only one element which is the largest.

Second Largest



Difficulty: **Easy**

Accuracy: **26.72%**

Submissions: **1.3M**

Points: **2**

Average Time: **15m**

Given an array of **positive** integers **arr[]**, return the **second largest** element from the array. If the second largest element doesn't exist then return **-1**.

Note: The second largest element should not be equal to the largest element.

Examples:

Input: arr[] = [12, 35, 1, 10, 34, 1]

Output: 34

Explanation: The largest element of the array is 35 and the second largest element is 34.

Input: arr[] = [10, 5, 10]

Output: 5

Explanation: The largest element of the array is 10 and the second largest element is 5.

Rotate Array to right by One Position

Rotate Array to left by One Position

189. Rotate Array

Solved 

Medium

Topics

Companies

Hint

Re-do

Given an integer array `nums`, rotate the array to the right by `k` steps, where `k` is non-negative.

Example 1:

Input: `nums = [1,2,3,4,5,6,7]`, `k = 3`

Output: `[5,6,7,1,2,3,4]`

Explanation:

rotate 1 steps to the right: `[7,1,2,3,4,5,6]`

rotate 2 steps to the right: `[6,7,1,2,3,4,5]`

rotate 3 steps to the right: `[5,6,7,1,2,3,4]`

283. Move Zeroes

Solved 

Easy

Topics

Companies

Hint

Re-do

Given an integer array `nums`, move all `0`'s to the end of it while maintaining the relative order of the non-zero elements.

Note that you must do this in-place without making a copy of the array.

Example 1:

Input: `nums = [0,1,0,3,12]`

Output: `[1,3,12,0,0]`