

About Newton School: Newton School is a platform that provides industry-oriented tech education and helps you get a tech job in just 6 months, without any upfront fee. With their Full Stack Development program that covers all about frontend, backend, data structures, algorithms, you get a job guarantee of minimum 5 lakhs per annum to 40 lakhs per annum, and you have to pay them only after you get placed. Students from Newton School are now working in companies like Google, Zomato, Flipkart, Deloitte, Nykaa, and more.

Discord Server Link: <https://discord.gg/feSQvVXMrd>

Course Flow: <https://whimsical.com/dsa-4-placement...>

Homework: Added in Video already .

Notes Link: <https://drive.google.com/file/d/10zLQ...>

Code Links: <https://github.com/loveBabbar/CodeHel...>


Question Links:

- Insertion Sort: <https://bit.ly/3EstWN7>

Do provide you feedback in the comments, we are going to make it best collectively.

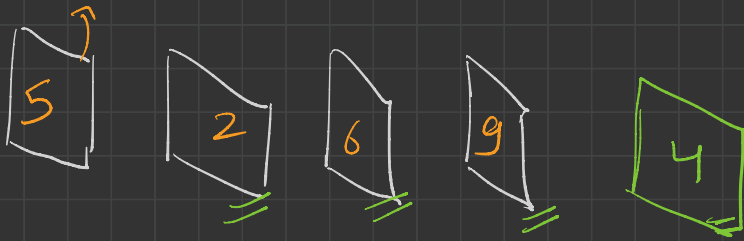
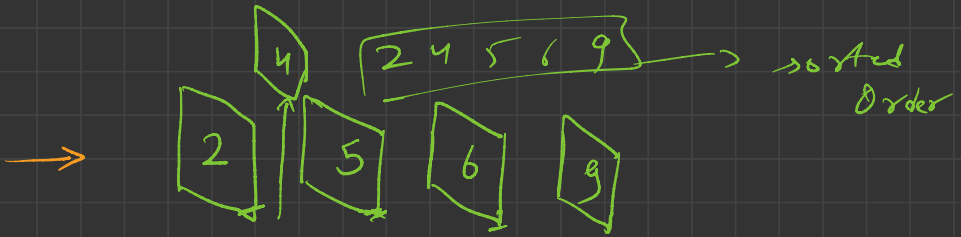
Telegram Group Link: Love Babbar CODE HELP

<https://telegram.me/lovebabbercodehelp>



Insertion Sort

↳ Card example



arr[] = {4 12 11 20}

{4, 11, 12, 20}

6 5 4 3 2 1

3 4 5 6

arr[] →

0	1	2	3	4	5	6
10	1	7	4	8	2	11

Round 1
i=1

10
1 < 10 → left side

10 → 1 place
0th index → 1 copy 10th

1	10	7	4	8	2	11
---	----	---	---	---	---	----

Round 2
i=2

7 < 10 → left
7 > 1 → right

Round 3
i=3

1	7	10	4	8	2	11
---	---	----	---	---	---	----

4 < 10 → left

Round 4
i=4

1	4	7	10	8	2	11
---	---	---	----	---	---	----

1 shift

1	4	7	8	10	2	11
---	---	---	---	----	---	----

Round 5
i=5

1	2	4	7	8	10	11
---	---	---	---	---	----	----

Runs

6

1 2 4 7 8 10 || 11

1 2 4 7 8 10 11

sorted

$n \rightarrow$ no of
element

$(n-1) \rightarrow$ runs

why?

\rightarrow Adaptive \rightarrow ?

\rightarrow Stable \rightarrow ?

\rightarrow n (small)
partially sorted

T.C \rightarrow

$S.C \rightarrow$ $O(1)$

2, 1, 2, 3, 4, 5}

arr \rightarrow

0	1	2	3
4	12	11	20

R1
 $i=1$
 $j=0$

4 12 | 11 20
 j ~~i~~ i

$12 > 4 \rightarrow 4$ is right
 break

R2
 $i=2$
 $j=1$

$11 < 12 \rightarrow$

4 12 12 20
 j i

temp = 11

$i=2$
 $j=0$

$11 > 4 \rightarrow$ break;

$arr[j+1] = temp$
 $arr[0+1] = arr[1] = 11$

4 11 12 20
 j i

R3
 $i=3$
 $j=2$

$temp = arr[i]$
 $= 20$

$20 > 12 \rightarrow$ break;

$arr[j+1] = temp$
 $arr[2+1] = arr[3] = 20$