

There is a lot to learn, Keep in mind “ Mnn boot karega k chor yrr apne se nahi yoga ya maza nahi para, Just ask 1 question “ Why I started ? “

Visit Coding Ninjas: <https://bit.ly/3cfDKTe>

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

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

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Homework: Added in Video already [25:33]

Notes Link: <https://drive.google.com/file/d/1WtwE...>

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

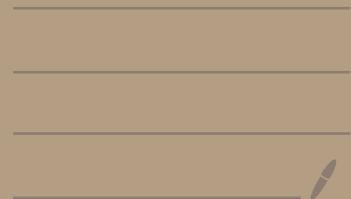
Question Links:

- Selection Sort: <https://bit.ly/3DrsGsv>

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>



## Selection      Sort

arr [ ] = 

1	7	9	2	3	0
---	---	---	---	---	---

sort  
sorted array → 

0	1	2	3	7	9
---	---	---	---	---	---

  
in c order  
↳ sorted

what → ?

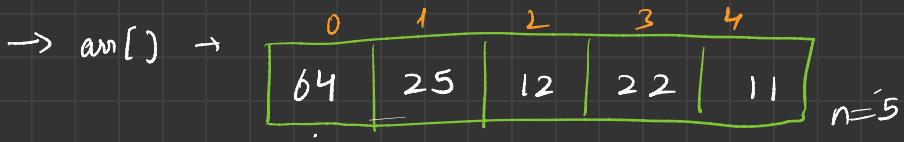
what - ?

Selection sort

→ different Rounds / passes

→ smallest element

laake, usko right  
jagah pr place kroche  
hai



Round 1 :-

64  $\leftarrow$  25 12 22  $\underline{11}$

$i=0$

Round 2 :-

11 25  $\leftarrow$  12 22 64

$i=1$

Round 3 :-

11 12 25  $\leftarrow$  22 64

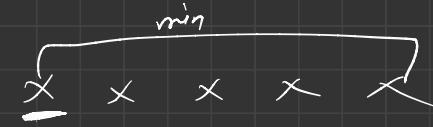
$i=2$

Round 4 :-

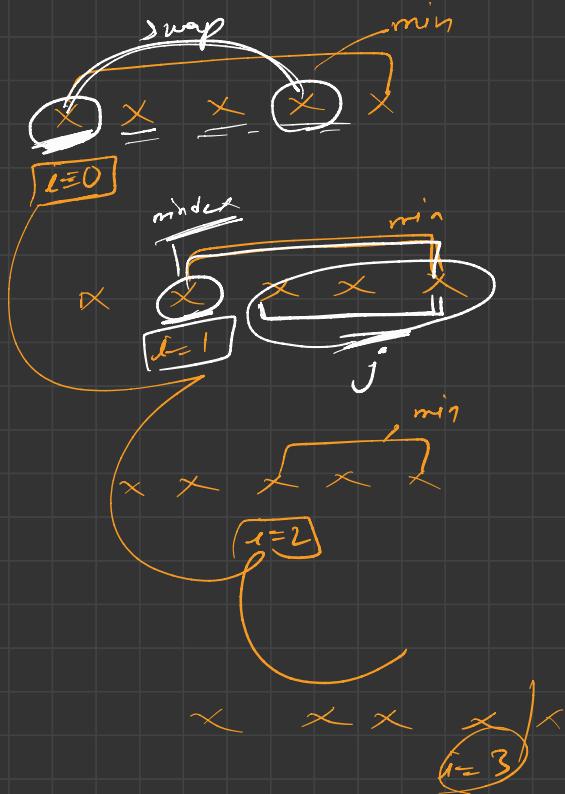
11 12 22 25 64

$i=3$

~  $\boxed{\text{Total Round} = (n-1)}$

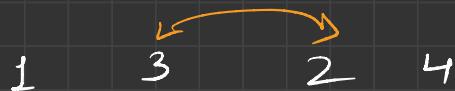


~~x x x | x~~            ~~posted~~

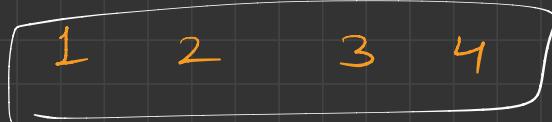


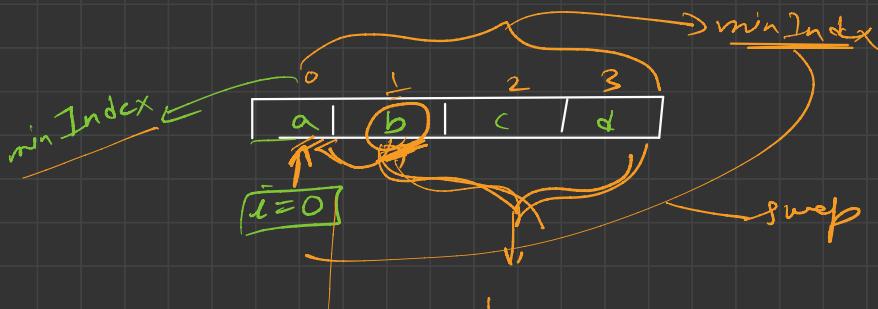


sorted

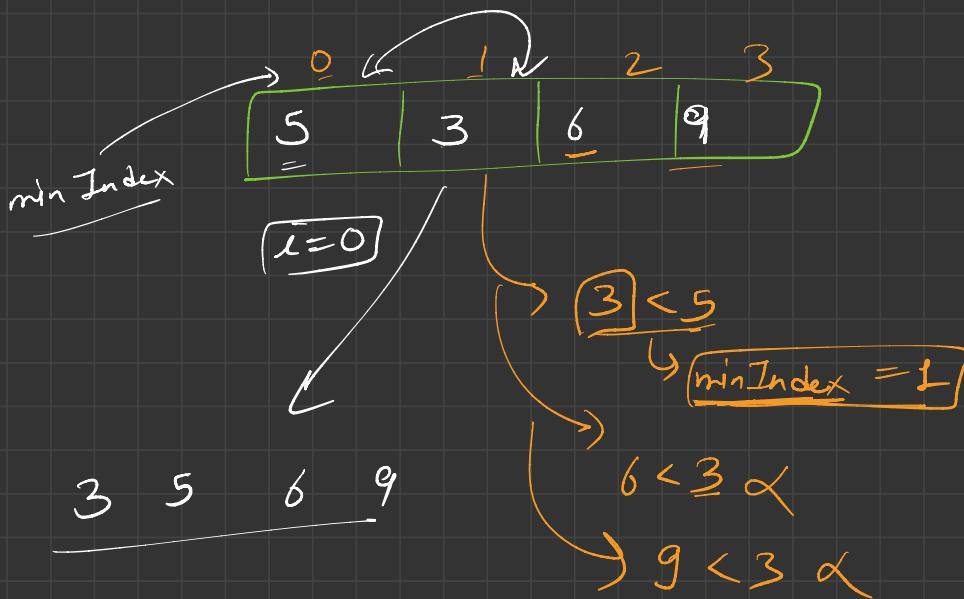


sorted





$$b \underset{\cancel{a}}{a} c \underset{\cancel{d}}{d} \quad \text{by } \underline{\text{minIndex} = 1}$$



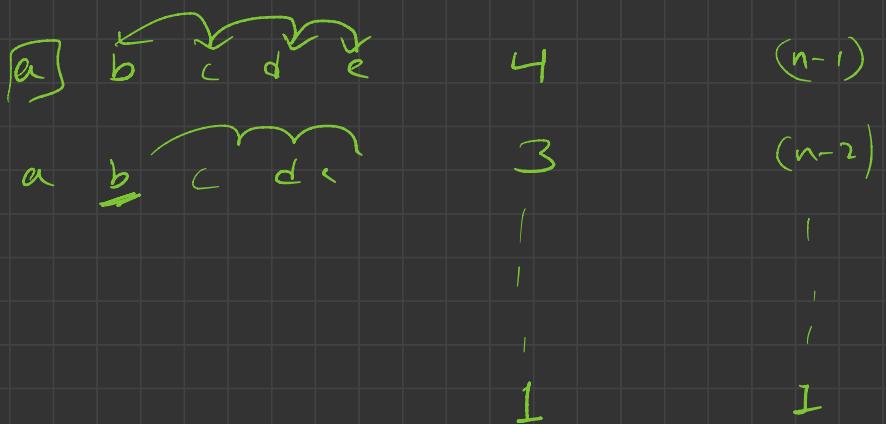
$$3 < 5 \quad \text{by } \underline{\text{minIndex} = 1}$$

$$6 < 3 \times$$

$$9 < 3 \times$$

For  $(0 \rightarrow (n-1))$   
 ↓  
 For  $(i+1 \rightarrow n)$ 
Space complexity  
O(1)

Time complexity



$$1 + 2 + 3 - \dots - (n-2) + (n-1)$$

$$= \left\{ \frac{n(n-1)}{2} \right\} = \frac{n^2-n}{2}$$

$T.C \rightarrow O(n^2)$

T-C

Best Case  $\rightarrow$  already sorted  $\rightarrow \underline{\underline{O(n^2)}}$

Worst Case  $\rightarrow \underline{\underline{O(n^2)}}$

4 3 2 1

Vsc Case:-

array / vector/list  
size small

what  $\rightarrow$   
=

T-C  $\rightarrow$  Out  
worst

Worst Case  $\rightarrow ?$

Code  $\rightarrow$

Dry run

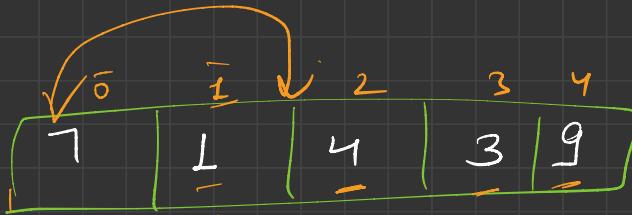
Homework

Flowchart

Stable or Unstable  $\rightarrow ?$

what

$\downarrow$   
Selection sort?



$$\begin{array}{c} i=0 \\ \hline \min \text{Index} = 0 \end{array}$$

$1 < 7 \rightarrow$  TRUE

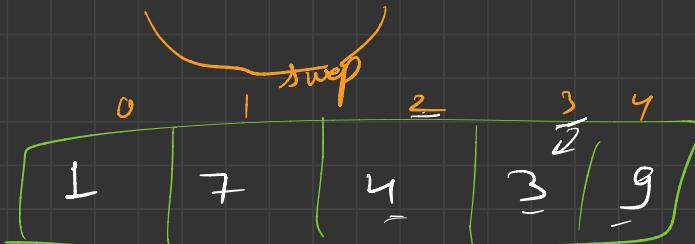
↳ Update minIndex  
↳ minIndex ≠ 1

↳  $4 < 1 \rightarrow \text{False} \rightarrow \text{ignore}$

$3 < 1 \rightarrow$

$\hookrightarrow g < 1 \rightarrow$  False

$i=0$      $\minIndex = 1$



1

minIndex = 1

$4 < 7 \rightarrow \text{TRUE}$

$$i=1, \text{ min index} = 3$$

↳ min Index = 2

3 < 4 → TRUE

.  $\rightarrow \minIndex = 3$

$\hookrightarrow g < 3 \rightarrow \text{false} \rightarrow \text{Ignore}$

0	1	2	3	4
1	3	4	7	9

$$\begin{array}{l} i=2 \\ \text{minIndex}=2 \end{array}$$

$7 < 4 \rightarrow \text{false}$

$9 < 4 \rightarrow \text{false}$

0	1	2	3	4
1	3	4	7	9

$$\begin{array}{l} i=3 \\ \text{minIndex}=3 \end{array}$$

$\leftarrow n-1$

$9 < 7 \rightarrow \text{false}$

$(1 \ 3 \ 4 \ 7 \ 9) \rightarrow \text{sorted}$

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