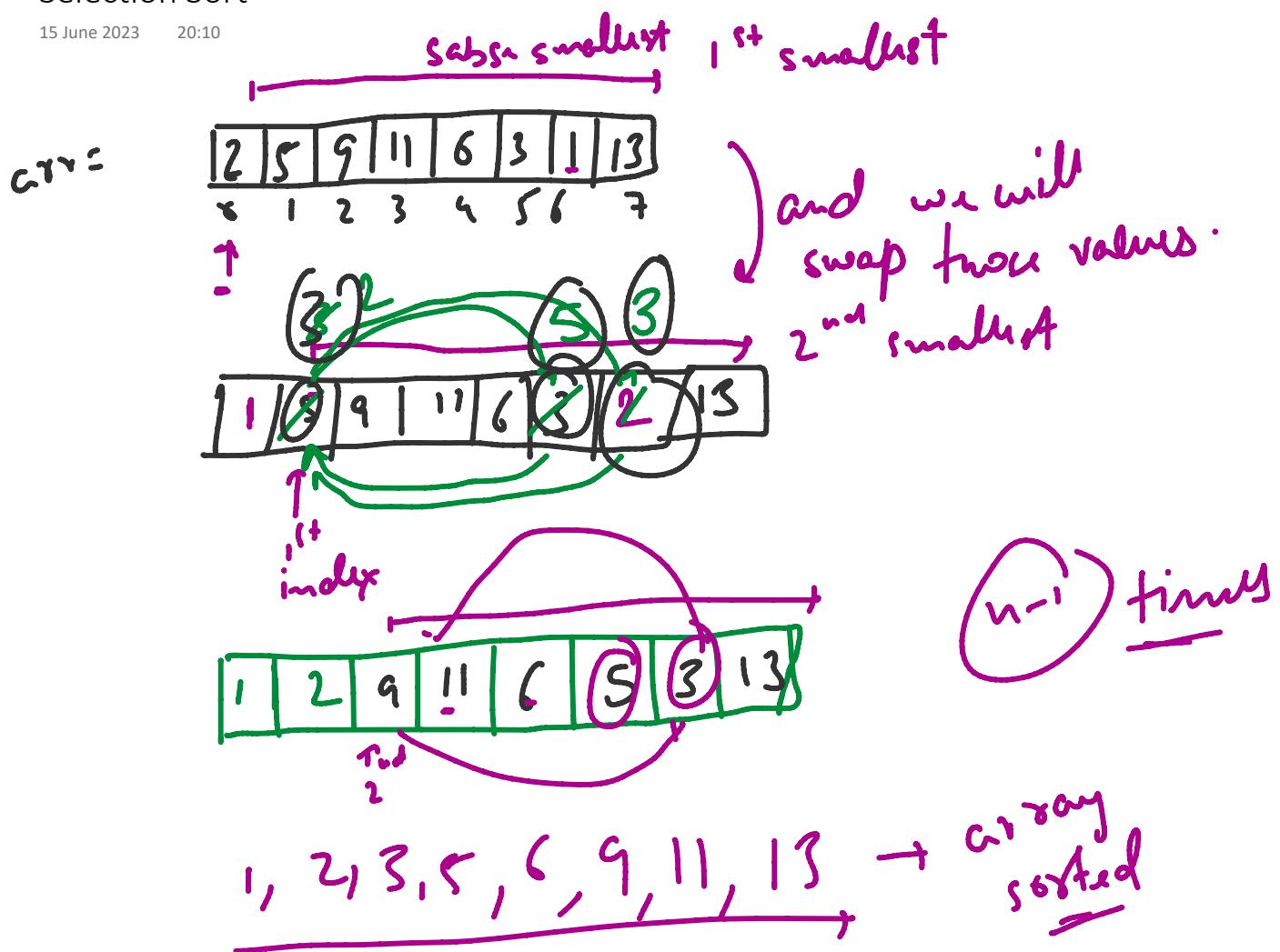


## Selection Sort

15 June 2023 20:10



$n-1$  times each index Pe  
 ; take right most subse smallest  
 element mii, we find out kro ho  
 and fix interchang kro current

and fix ~~interchanging~~ i.e.  
index value element i.e.

↓	2	5	9	11	6	3	1	13
---	---	---	---	----	---	---	---	----

$i=0$

$j=0$

$j=n-1$

for 1<sup>st</sup>  
smallest  
element

$i=1$

$j=1$

$n-1$

$i=2$

$j=2$

$n-1$

for each  $i, j$  will vary  
from  $i$  to  $n-1$ .  $j$

for (int  $i=0; i < n-1; i++$ )

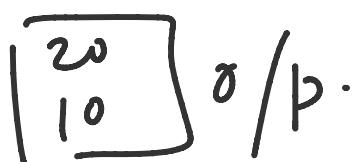
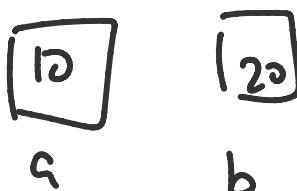
{ for ( $j=i; j < n; j++$ )  
    { for ( $j=0; j < arr[i]; j++$ )  
        {  $arr[j] = arr[i]$   
             $arr[i] = arr[j]$  } } }

if (curr[j] < curr[i])  
 swap (curr[j], curr[i])  
 insert  
 index value  
 with smallest  
 value right.

int a=10, b=20;

// swapping / interchanging  
values

cout << a << endl << b;



swapping logic (interchanging values logic)

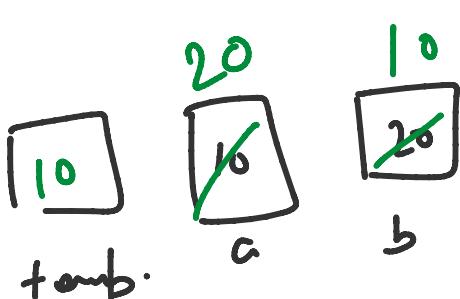
1<sup>st</sup> way → Using 3<sup>rd</sup> variable (temp variable)

int a=10, b=20;

int temp;

temp = a;

... 12 steps



• Up states  
 $\left. \begin{array}{l} \text{temp} = \text{a} \\ \text{a} = \text{b} \\ \text{b} = \text{temp} \end{array} \right\}$

$\frac{1}{\text{temp}} \cdot \frac{1}{\text{a}} = \text{b}$

values are interchanged.

2<sup>nd</sup>

But without using any extra  
variables

• I/P  $a = 20$   
 $b = 10$

int  $a = 10, b = 20;$

$a = a + b;$

$b = a - b;$

$a = a - b;$

$$30 - 10 = 20$$

20  
30  
10  
10  
20

a

10  
20  
10  
20

b

$$10 + 20 = 30$$

$$30 - 20 = 10$$

A=A^B, B=A^B, A=A^B

int  $a = 10,$   
 $b = 20;$

20  
10  
10  
20  
b

$\frac{a = a \hat{^} b;}{b = \underline{a \hat{^} b}.}$   
 $c = \underline{\underline{a \hat{^} b}};$

$$10 \hat{^} 20 \hat{^} 0 \hat{^} 0 = 10$$

$$\sqrt{10 \hat{^} 20 \hat{^} 0 \hat{^} 0} = 10$$

$$c = a = 20 \quad \text{if } 20 \neq$$

3<sup>rd</sup> way Interview type ques.  
Swaps using 1 line

$(=)$  → assignment ✓  
~~(=)~~ → whatever value it assigns, it returns ~~gives~~ that value.

int a = 10

int b, c;  
 $b = c = a;$  ✓  
 $b = 10$  ✓  
cout << b = 10 << j;  
(10).

int a = 10, b = 20;

$$b = a + b - (a = b)$$

$$b = 10 + 20 - (20)$$

20	10
a	b

$P = \cup$

inbuilt swap function / method.