

Day: \_\_\_\_\_

# Selection Sort

Date: \_\_\_\_\_

```
int main () {
```

```
    int arr[] = {64, 34, 25, 12, 22, 11};
```

0	1	2	3	4	5
64	34	25	12	22	11

```
    int n = sizeof(arr) / sizeof(arr[0]);
```

```
        n = 6
```

```
    cout << "Unsorted array";
```

```
    "Unsorted array"
```

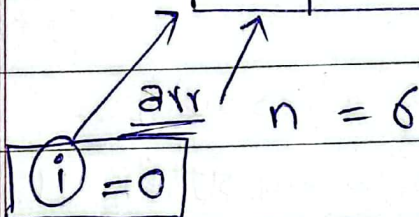
→ Print Array (arr, n);

```
void PrintArray (int Arr[], int n) {
```

0	1	2	3	4	5

```
    n =
```

0	1	2	3	4	5

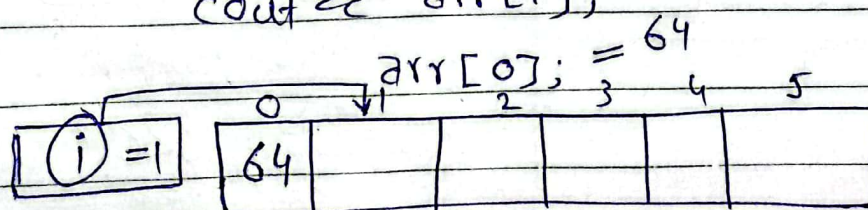


```
    for (int i = 0; i < n; i++)
```

```
        i = 0
```

```
        0 < 6;
```

```
        cout << arr[i];
```

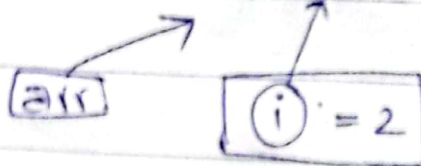


for( int i=1 , i<n; i++)

$i=1$  ,  $1<6$

cout<< arr[1]; = 34

0	1	2	3	4	5
64	34				



for( i=2; i<n; i++)

$i=2$  ,  $2<6$

cout<< arr[2]; = 25

0	1	2	3	4	5
64	34	25			

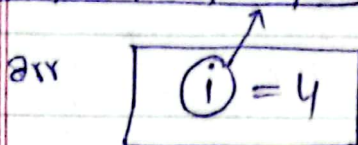


for( i=3; i<6; i++)

$i=3$  ,  $3<6$ ;

cout<< arr[3]; = 12

0	1	2	3	4	5
64	34	25	12		

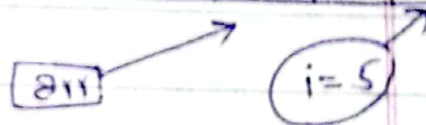


for( i=4; i<6; i++)

$i=4$  ,  $4<6$  ,

cout<< arr[4] = 22

0	1	2	3	4	5
64	34	25	12	22	



for( i=5; i<6; i++)

$i=5$  ,  $5<6$  ;

cout<< arr[5]; = 11

0	1	2	3	4	5
64	34	25	12	22	11



for( i=6, i<6; i++)

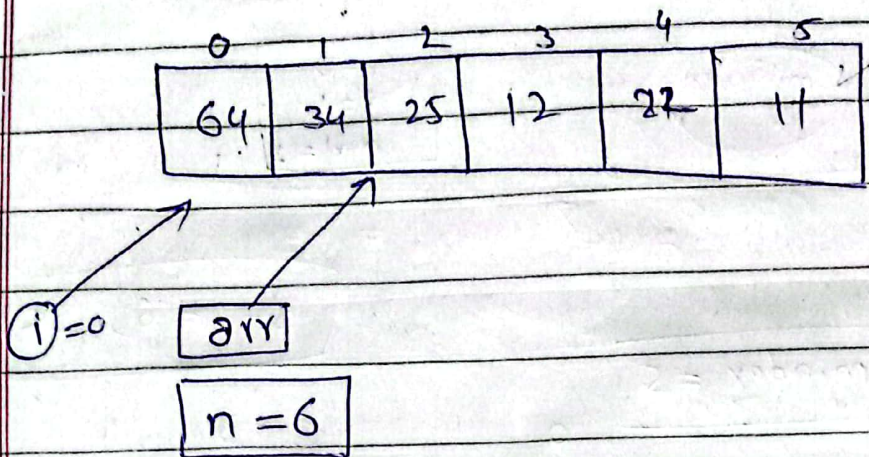
$i=6$  ,  $6<6$  (True).

cout<< ends



# → Selection Sort (arr, n);

Date: \_\_\_\_\_

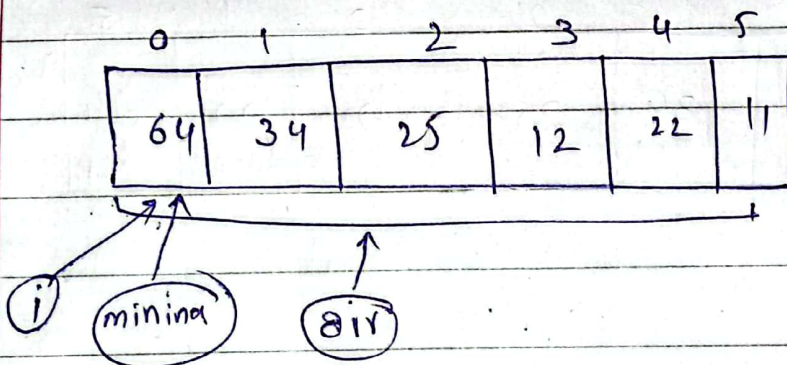


for( int i=0 ; i<n-1 ; i++)

`i=0`    $0 < 5 ; \checkmark$

int minindex = i

`minindex = 0`



for( int j = i+1 ; j<n ; j++)

`i=0`

$j = 0 + 1$

`j=1` , `1 < 6`

if( `arr[j] < arr[minindex]` )

if ( `arr[1] < arr[0]` )

$34 < 64 \checkmark$

`minindex = j` →

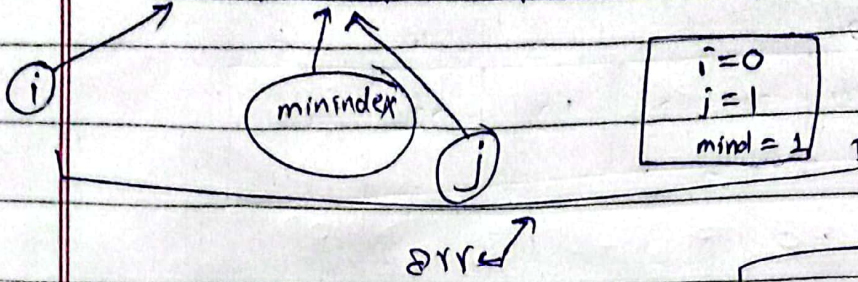
`minindex = 1`



Day: \_\_\_\_\_

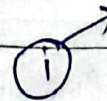
Date: \_\_\_\_\_

0	1	2	3	4	5
64	34	25	12	22	11



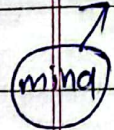
$$5 + 1 = 6, 6 < 6 \quad \checkmark$$

minindex = 5

swapping

0	1	2	3	4	5
64	34	25	12	22	11

if ( minindex  $\neq$  i )  
 ( 5  $\neq$  0 )



Swap( arr[0], arr[minindex] )  
 64 , 11

0	1	2	3	4	5
11	34	25	12	22	64