selection Sort

arr [ ] = | 1 | 7 | 9 | 2 | 3 | 0 | sorted → | 0 | 1 | 2 | 3 | 7 | 9 |

Round

i. select the SMALLEST element and place it to the right place.

Example: arr[ ] =

0	1	2	3	4
64	25	12	22	11

Round 1: place i = 0 (64) ; element 1st smallest element (11) ; Swap

11	25	12	22	64

(after Round 1)

Round 2: place i = 1 (25) ; element 2nd smallest element (12) ; Swap

0	1	2	3	4
11	12	25	22	64

(after Round 2)

Round 3:

0	1	2	3	4
11	12	22	25	64

(after Round 3)

Round 4:

0	1	2	3	4
11	12	22	25	64

(last element is in the perfect place)

∴ Total Round = 4
= (total element − 1)
= (n − 1)

How many rounds till sorted?

Round 1 x x x x x
i=0

Round 2 x x x x x
i=1

⋮

Last Round x x x x x
i=3

5 elements, i ⇒ 0 to 3

∴ i=0 & i<(n-1)

In 1 Round how many compares?

Round 1 x x x x x
i=0 j=1 j=2 j=3 j=4

(when i=0) ~~j = i+1, j ⇒ i+1 to~~

j = 1, j ⇒ 1 to 4

⇒ j = i+1, j ⇒ (i+1) to (n-1)

⇒ j=i+1 & j<n