

# Selection sort:

In selection sort we find the minimum element & move it to the sorted part of array to make unsorted part sorted.

when to use selection sort:

- when we have insufficient memory
- Easy to implement

when to avoid selection sort:

- when time is a concern.

Ex:  $\rightarrow$  `int arr = [ 32, 24, 12, 22, 10 ]`

*(Indices 0, 1, 2, 3, 4 are written above the elements)*

Round 1  $\rightarrow$  `32` `24 12 22 10`

$j=0$  Find smallest.

smallest is 10  
then swap it with  $i$

`[ 10, 24, 12, 22, 32 ]`

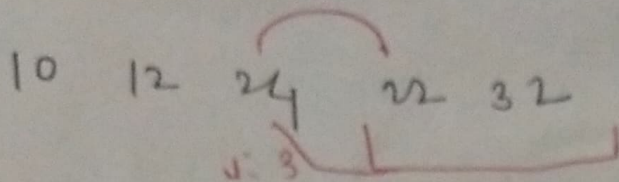
$i=1$  `24 12 22 32` Find minimum

Round 2:

the minimum value is 12  
then swap with 24



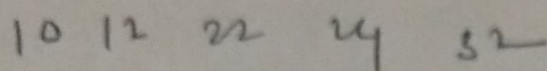
10 12 24 22 32



Round 3

Find minimum  
the minimum element is 22  
swap with i

10 12 22 24 32



Round 4

so there is no need  
for last element.

Note →  
So we run the  $(arr.length - 1)$  round