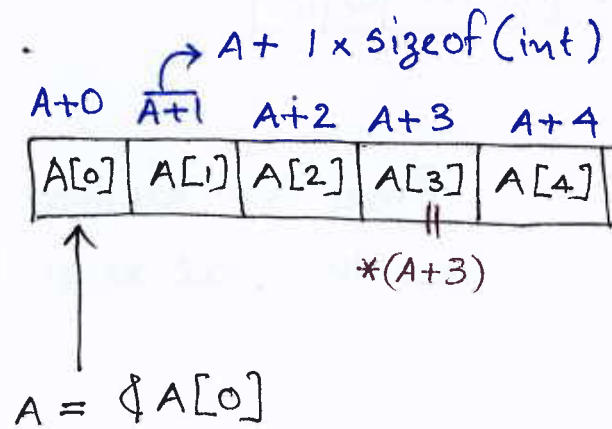
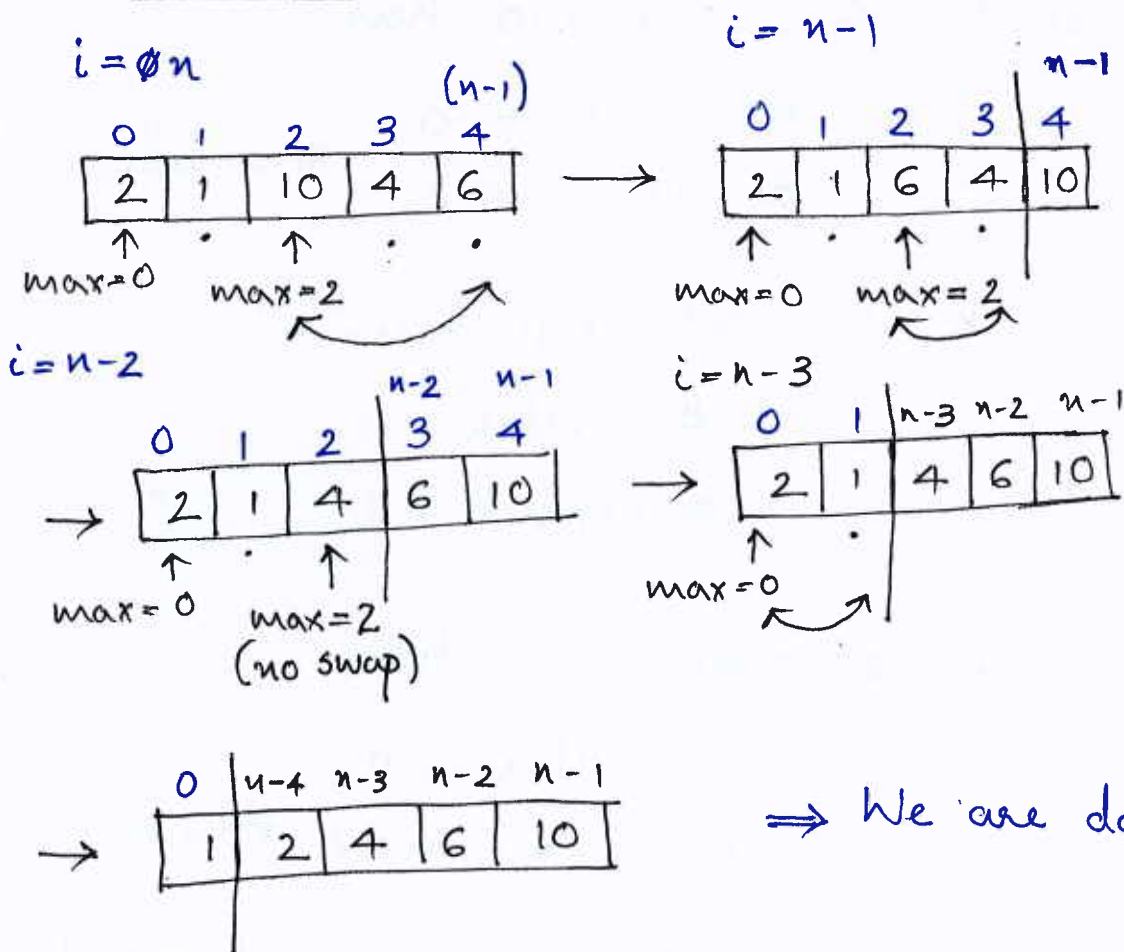


1. Arrays

`int A[5];`



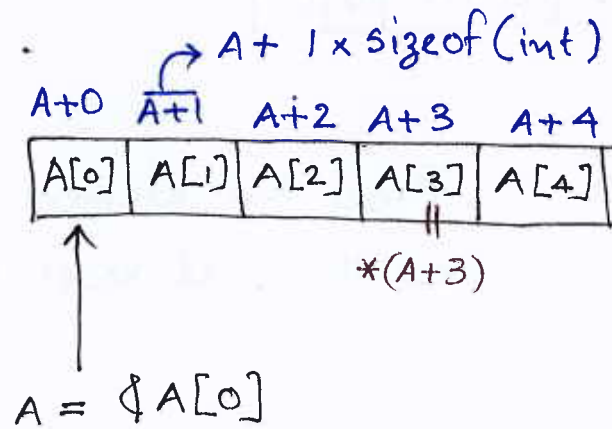
2. Selection sort



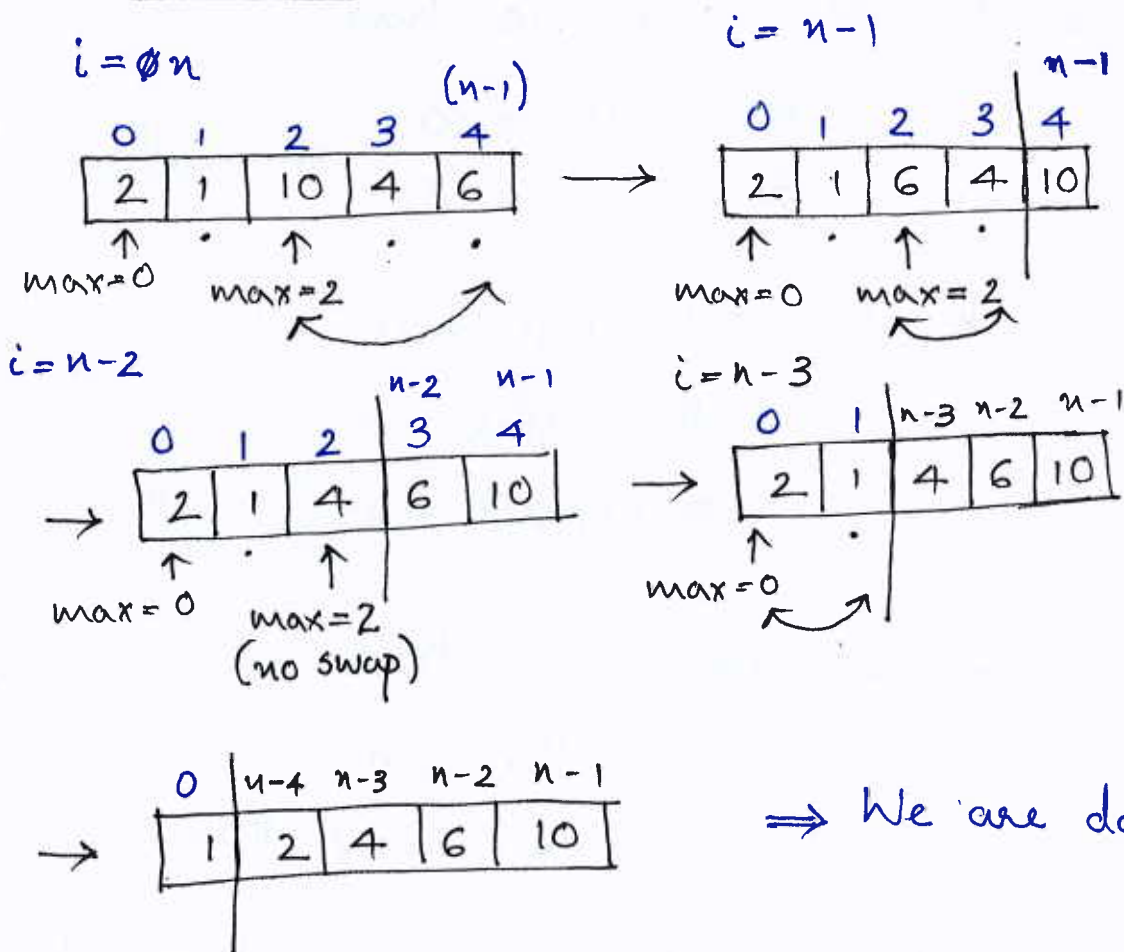
\Rightarrow We are done!

1. Arrays

`int A[5];`



2. Selection sort



\Rightarrow We are done!

k^{th} smallest element (e.g. 7.8)

0	1	2	3	4	5
12	10	10	11	13	12

$k = 0 : 10$

$k = 1 : 10$

$k = 2 : 11$

$k = 3 : 12$

$k = 4 : 12$

$k = 5 : 13$

"Find the element which is less than at most k values"

(* for each k , do an n^2 pass over the array.)

Consider $k = 0$, value 10 has

smaller = 0

equal = 2

smaller $\leq k$

$k = 1$, value 10 has

smaller = 0

equal = 2.

"

$k = 1$, value 11 has

smaller = 2

equal = 1 # smaller $\leq k$

Problem: whether to pick 10 or 11 for $k = 1$?

Need to account for duplicates!

* Add the condition $k < \text{smaller} + \underline{\text{equal}}$

This works fine. But we need to ~~scan~~ scan through the array to examine each element for a given k .