Programming

Sorting | الترتيب
Selection & Bubble sort

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Sorting

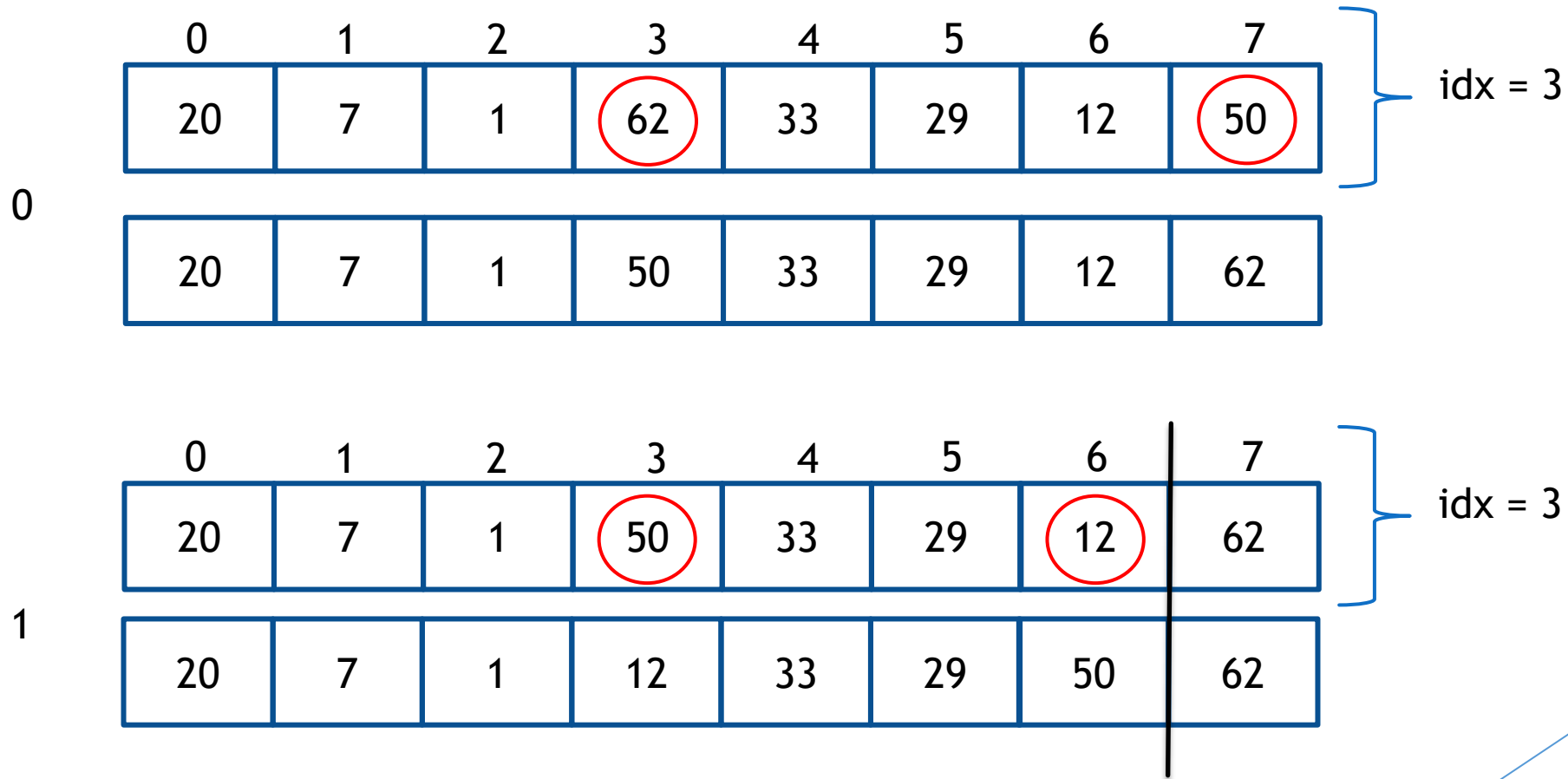| 0	1	2	3	4	5	6	7
20	7	1	62	33	29	12	50

1	7	12	20	29	33	50	62

Selection sort algorithm

▶ Find max item in list

▶ Swap with last element list[idx] ⇔ list[n]

▶ Find max item in in sub-list list[:n-1]

▶ Swap with last element list[idx] ⇔ list[n-1]

▶ …

▶ Repeat the same steps till list length is 1

Selection sort

Selection sort cont.

	0	1	2	3	4	5	6	7
	20	7	1	12	(33)	(29)	50	62

idx = 4

2

20	7	1	12	29	33	50	62

	0	1	2	3	4	5	6	7
	20	7	1	12	(29)	33	50	62

idx = 4

3

20	7	1	12	29	33	50	62

Selection sort cont.

	0	1	2	3	4	5	6	7
	20	7	1	12	29	33	50	62

idx = 0

4

	12	7	1	20	29	33	50	62

	0	1	2	3	4	5	6	7
	12	7	1	20	29	33	50	62

idx = 0

5

	1	7	12	20	29	33	50	62

Selection sort cont.

0	1		2	3	4	5	6	7
1	(7)		12	20	29	33	50	62

idx = 1

6

1	7		12	20	29	33	50	62

0		1	2	3	4	5	6	7
(1)		7	12	20	29	33	50	62

idx = 0

7

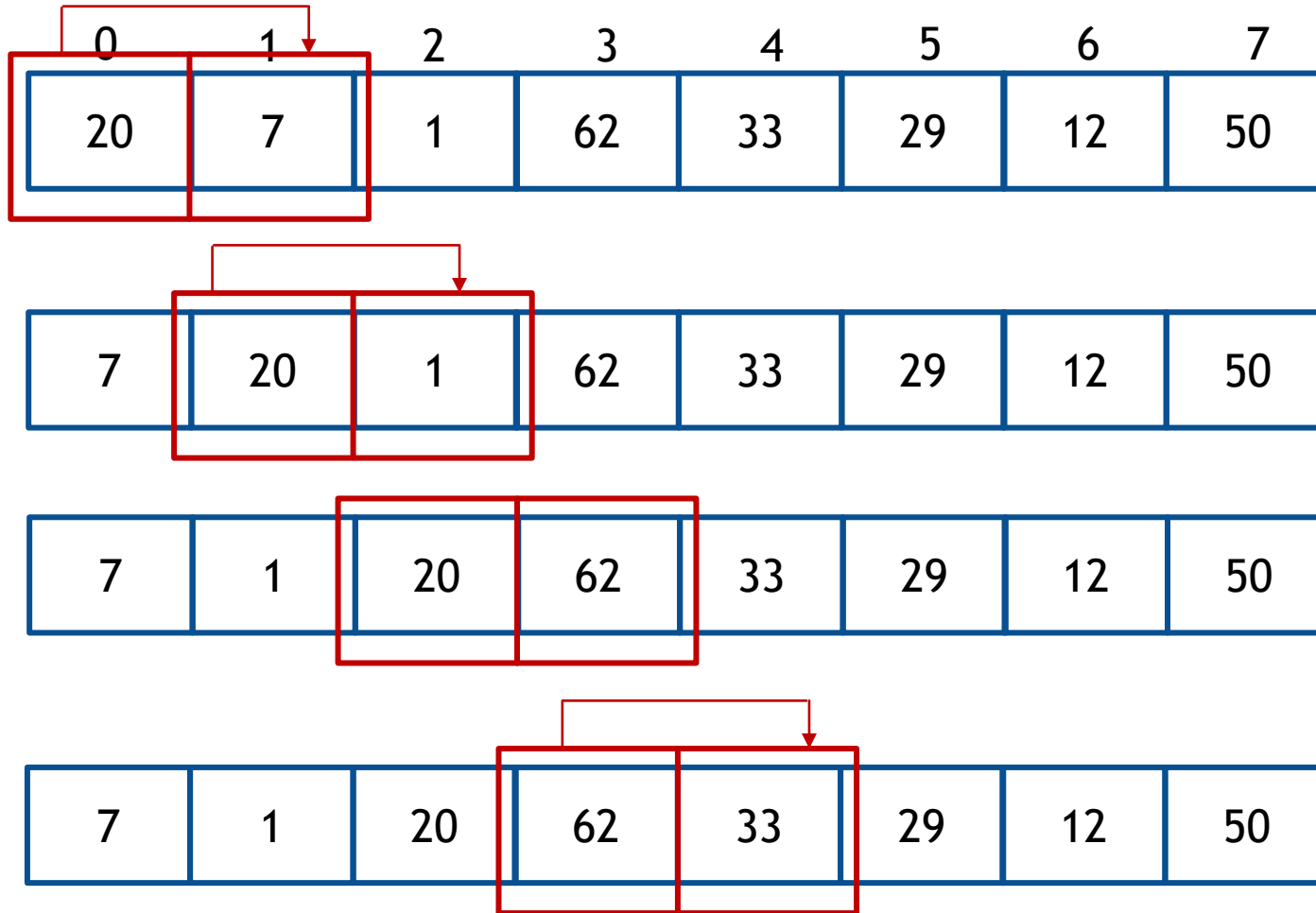|								
1		7	12	20	29	33	50	62
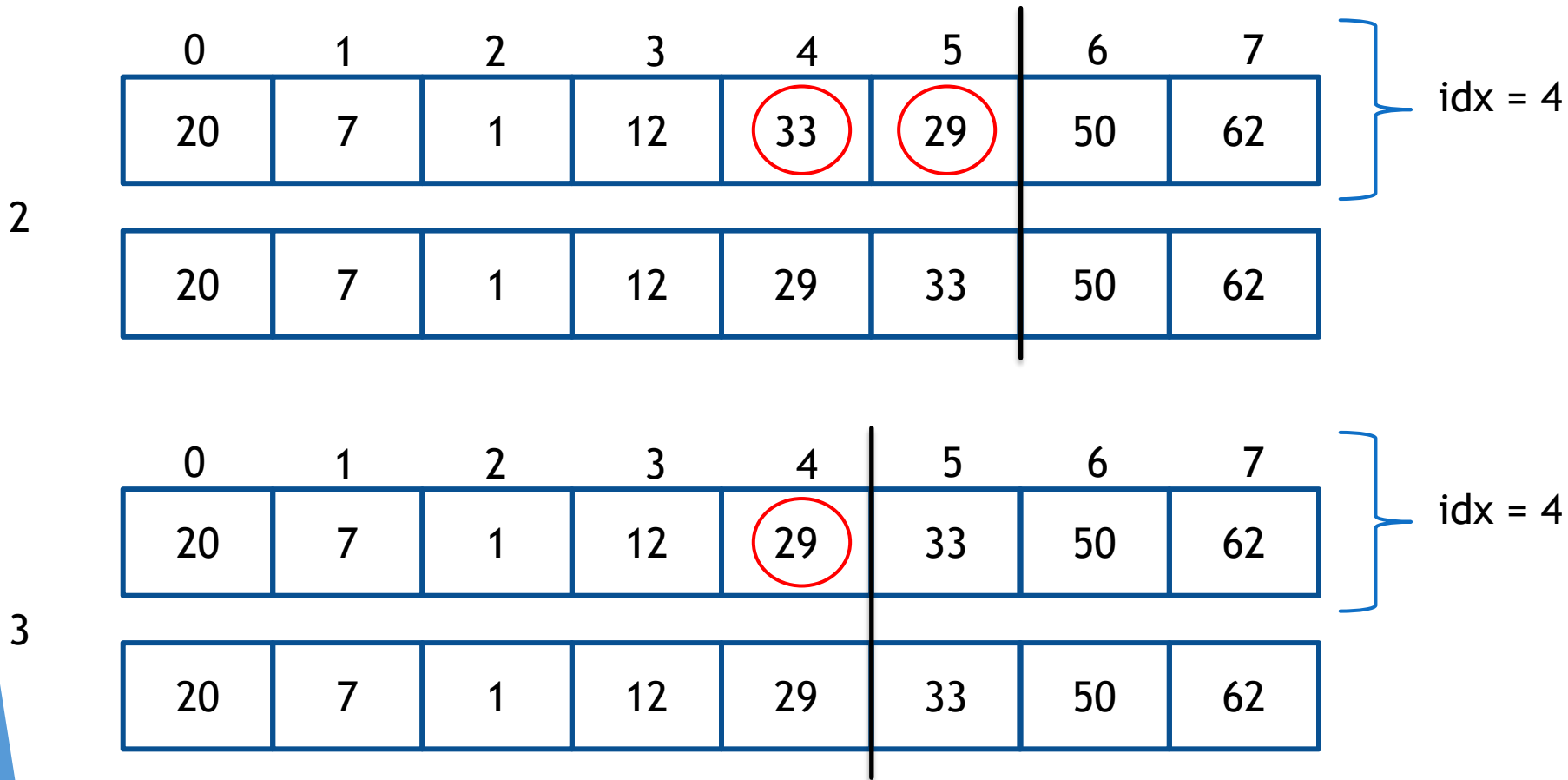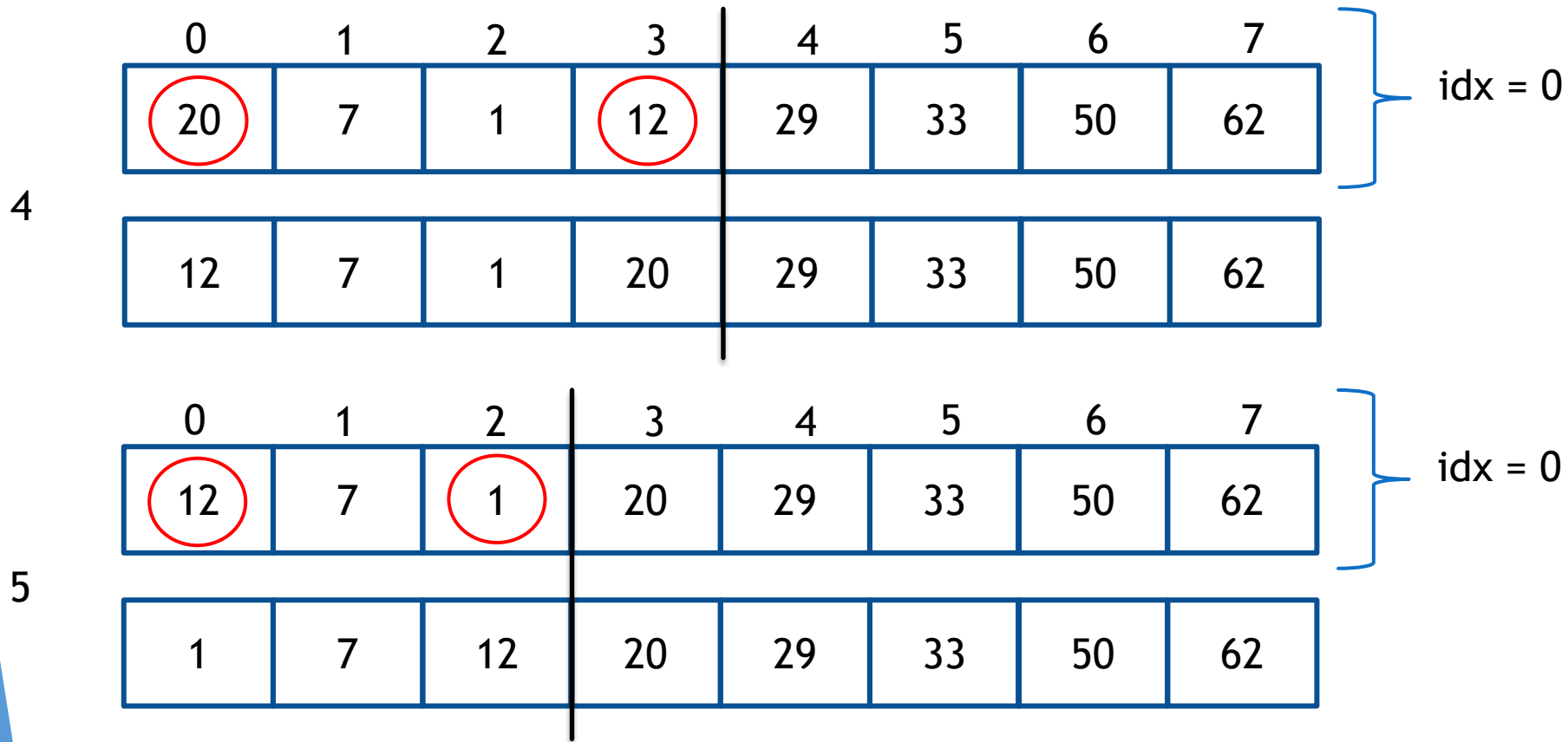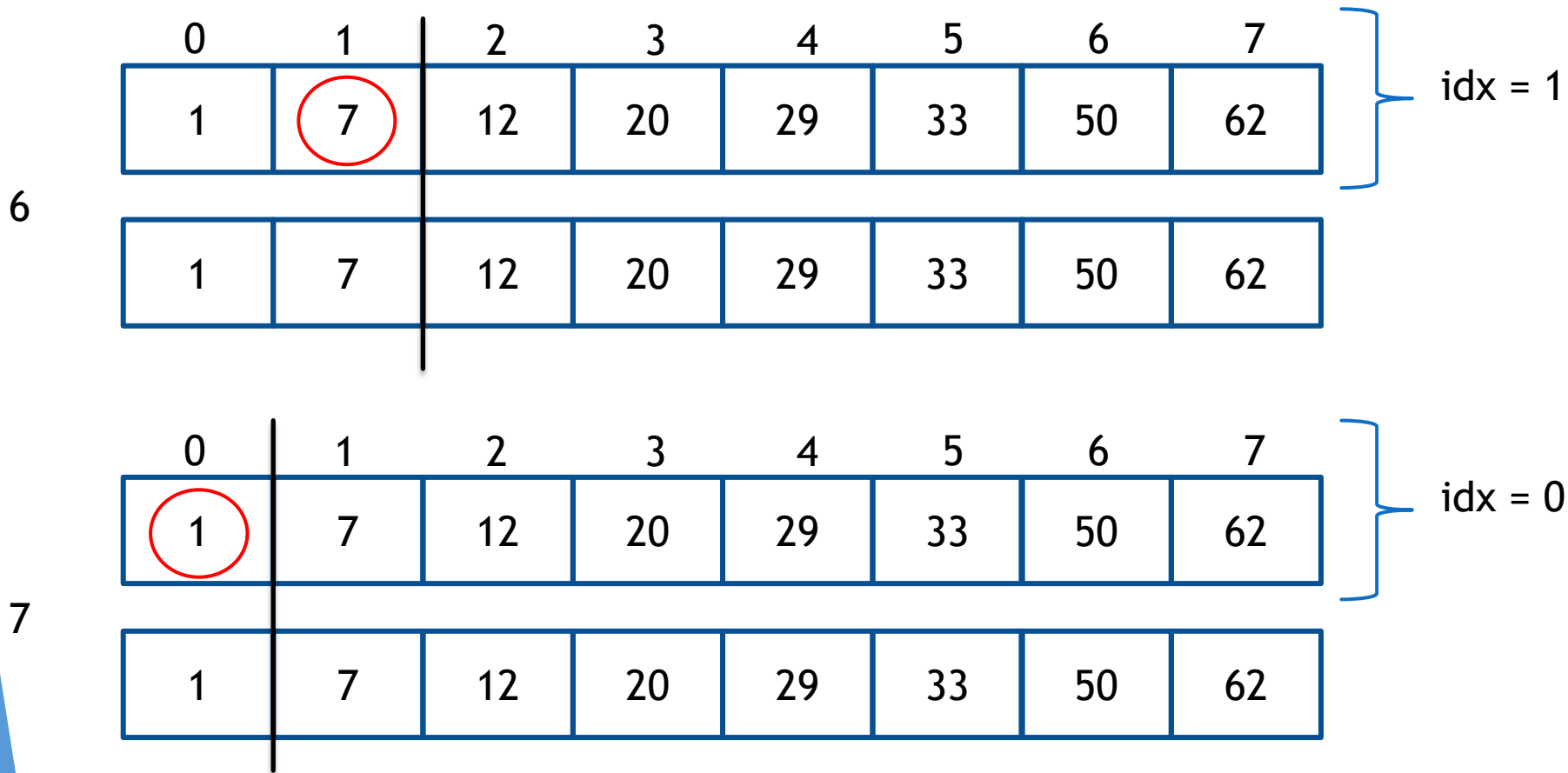
Bubble sort algorithm

▶ Iterate over all couple
Start from first couple, compare first with second
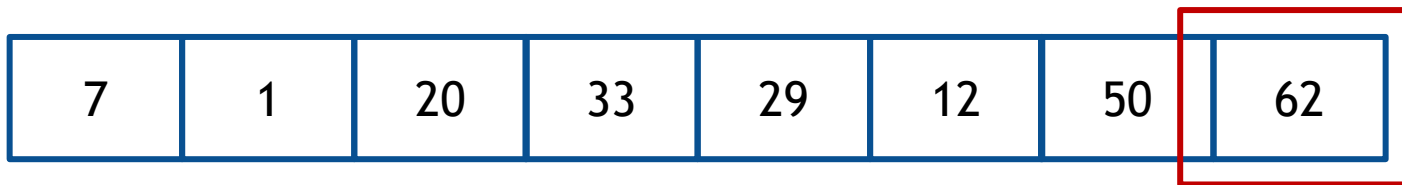if greater - bubble them (swap)
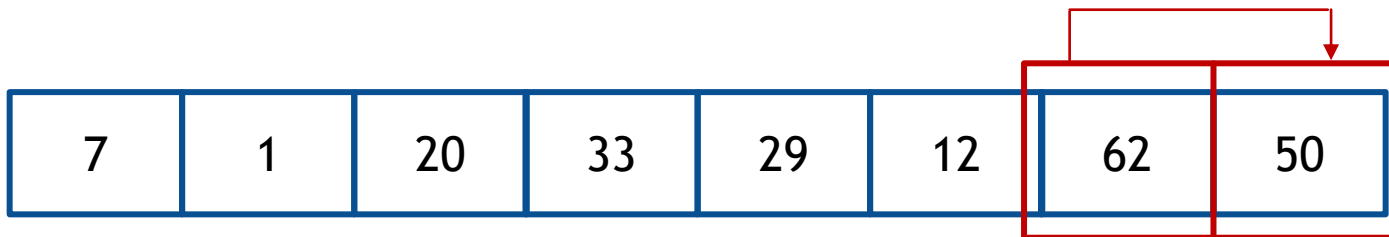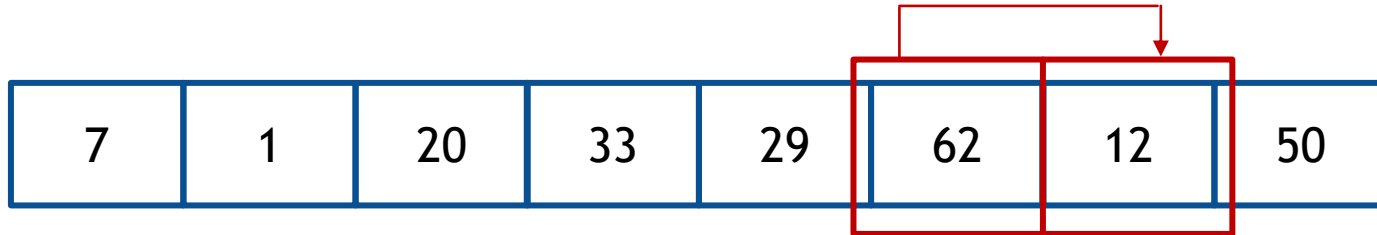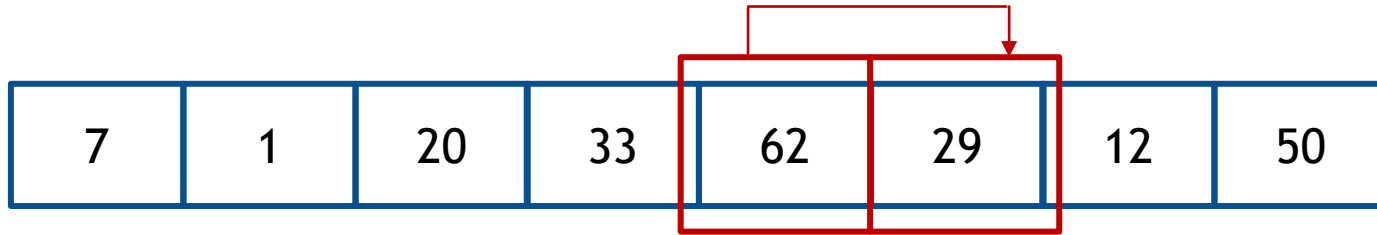continue to next couple...

▶ Repeat till list[n-1]

▶ ...

Bubble sort

Iteration 0

0	1	2	3	4	5	6	7
20	7	1	62	33	29	12	50

7	20	1	62	33	29	12	50

7	1	20	62	33	29	12	50

7	1	20	62	33	29	12	50

Bubble sort cont.

7	1	20	33	62	29	12	50

7	1	20	33	29	62	12	50

7	1	20	33	29	12	62	50

7	1	20	33	29	12	50	62

Bubble sort cont.

Iteration 1

7	1	20	33	29	12	50	62
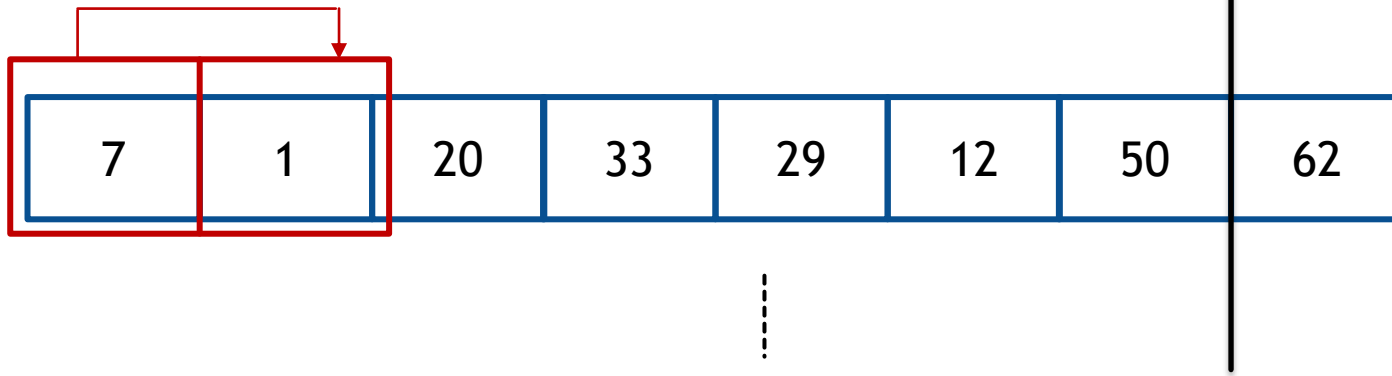
Thank you ☺!

Stay tuned for more!