

Data update



Delete

Create

Retrieve

own

searching

Deletion

$$n = 7 - 1 = 6$$

0	1	2	3	4	5	6
2	5	7	11	13	11	10

✓

① Search

$$1 = \underline{\text{index}(5)}$$

② Duplicate

0	1	2	3	4	5	6
2	5	7	11	13	10	10

↓

0	1	2	3	4	5
2	3	7	11	13	10

Reduce

eg

0	1	2	3	4	5
2	3	7	9	11	15

Selection

1)

2	3	9	9	11	15
---	---	---	---	----	----

↓

2	3	9	1	1	1	1	1	15
---	---	---	---	---	---	---	---	----



2	3	9	1	1	1	1	1	15
---	---	---	---	---	---	---	---	----

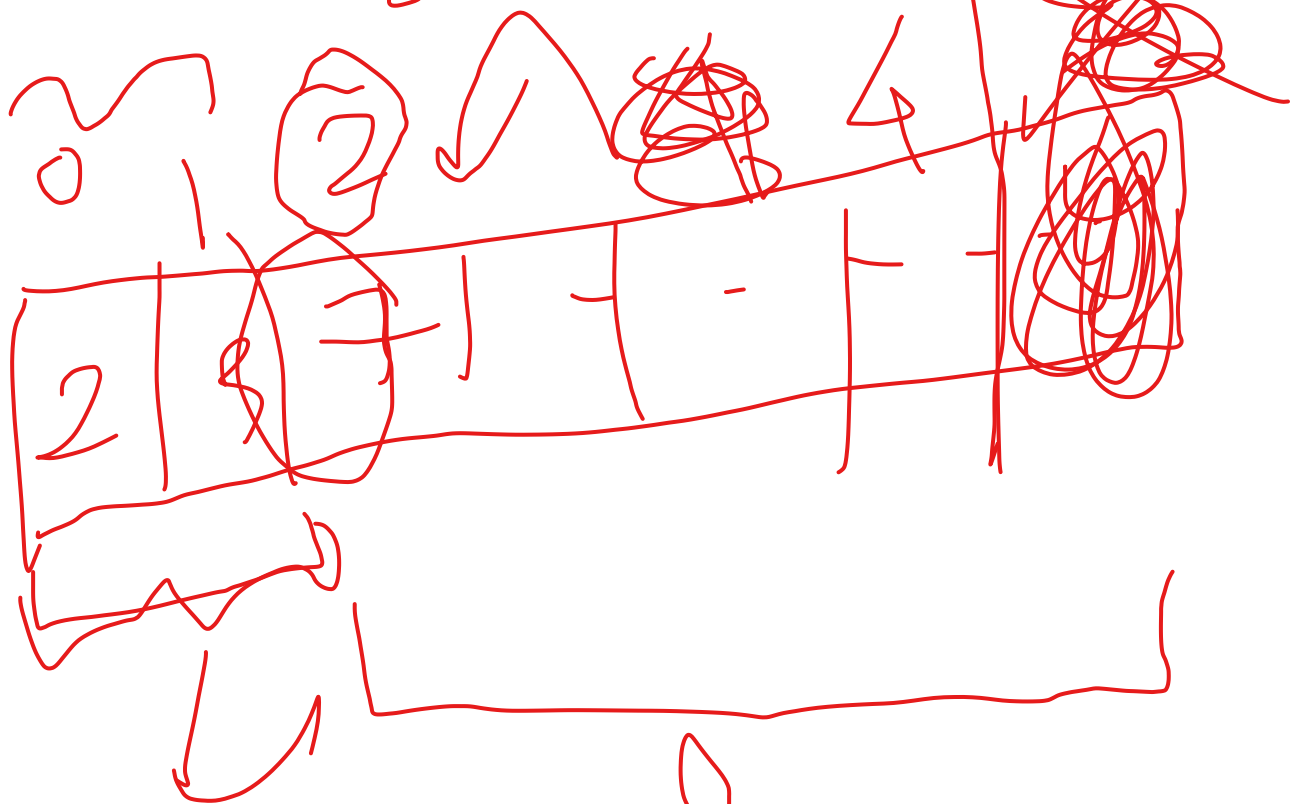
✓ ✓ ✓

~~scribbled out~~



total  
11  
~~scribbled out~~

key



X      go

— 1 — 5 —

// arr[2] == key

i = 2

j = 2 15 j = 4

$$\text{arr}[2] = \text{arr}[3]$$

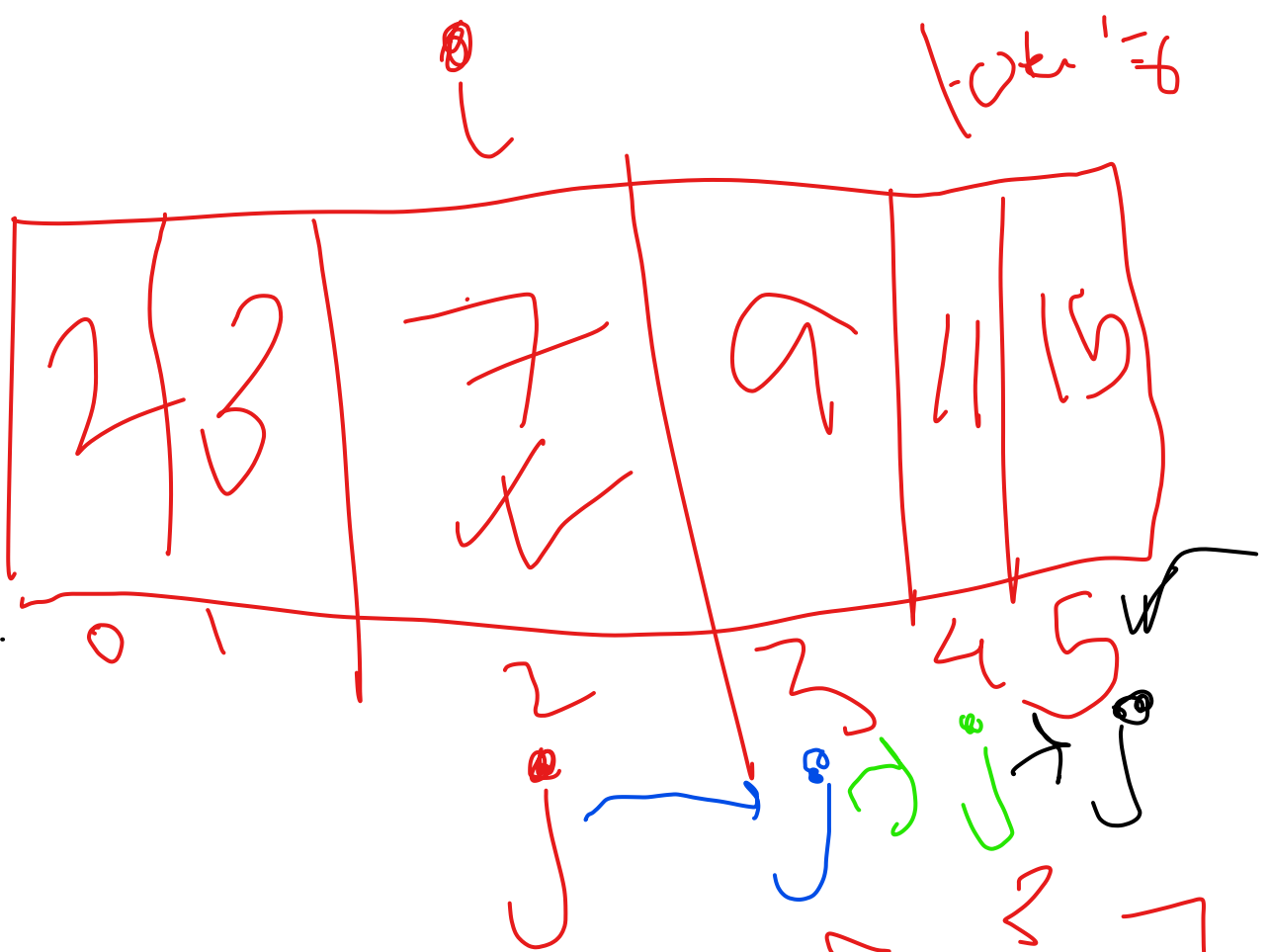
$$\text{arr}[3] = \text{arr}[4]$$

$$\text{arr}[4] = \text{arr}[5]$$

total

$$\text{length} = 6$$

$$\text{key} = 7$$



$$\text{arr}[2] = \text{arr}[2+1]$$

2, 3, 9, 9, 11, 15

$$\text{arr}[3] = \text{arr}[3+1]$$

2, 3, 9, 11, 11, 15

$$\text{arr}[4] = \text{arr}[4 + 1]$$

2, 3, 10, 11, 10, 15

~~$$\text{arr}[5] = \text{arr}[5 + 1]$$~~

~~10 - 15~~

~~10~~



Sorting → Org  
in patterns

✓

5	1	2	0	2	6
---	---	---	---	---	---

{ Sorting Asc.

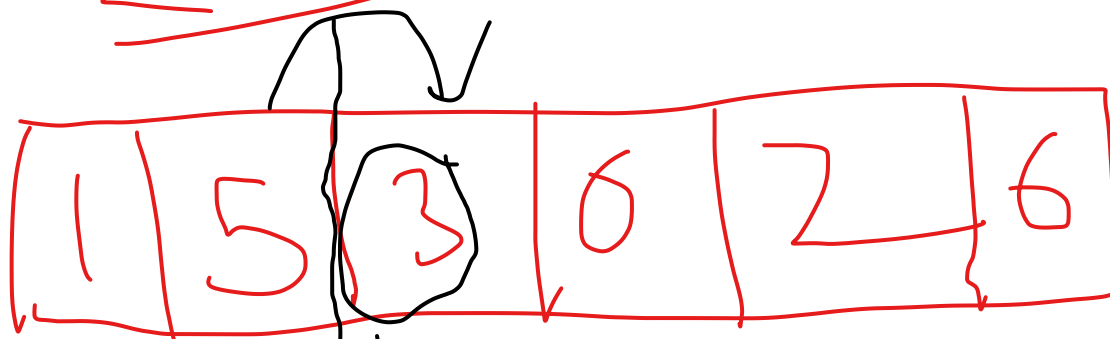
✓

0	1	2	3	5	6
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# Insertion 15



shift



shift un

3 < 5

~~3 < 1~~

