9-Feb

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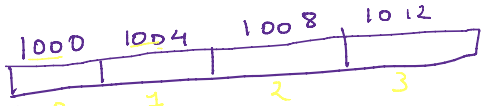
Arrays :- Homogeneous Elements stored in a cont. manner

Homogeneous → Some Type of Data

cont. manner → All the elements stored

int - 4 bytes

int[4]



Declaration of an Array

<Data type>[] <array-name> = new <datatype>[size];

↳ Int array = all idx will have 0.

↳ Boolean array = all idx will have false.

int[] a = {5, 10, 15, 1, 2, 3}

a.length :) tells you the size of the array

a[<index>] = 100;

a[2] = 100

The indexing starts from 0.

Maximum Value in an array :-

{10, 15, 7, 75, 38, 45}

0 1 2 3 4 5

maxIdx = 0 1 3

i = 1 2 3 4 5 6

```
int max(ars){
    maxIdx = 0;
① — for(i = 1 to ars.length - 1){
② —     if(ars[maxIdx] < ars[i]){
③ —         maxIdx = i
        }
    }
    return maxIdx;
}
```

H.W :- https://leetcode.com/problems/rotate-array/

Min = find min element's Index :) ars

Search = Search an element's Index :) ars, k

Count = Count the freq. of an element.

Search = Search an element's index

Count Frequency = Count the freq. of an element.

arr = [1, 1, 3, 2, 3] , K = 3

Rotate An Array

Clock

Anti-Clock

Size = 5

```
Input:
N = 5, D = 2
arr[] = {1,2,3,4,5}
```

1 R => 2,3,4,5,1

2 R => 3,4,5,1,2

	0	1	2	3	4
0 R =>	1	2	3	4	5
1 R =>	2	3	4	5	1
2 R =>	3	4	5	1	2
3 R =>	4	5	1	2	3
4 R =>	5	1	2	3	4
5 R =>	1	2	3	4	5

Similar

```
rotateArray(arr) {
    first = arr[0];
    for(i=0; i<arr.length-1; i++) {
        arr[i] = arr[i+1];
    }
    arr[arr.length-1] = first;
}
```

117

D = D % arr.length;

117 % 5 = 2

115

Reverse of An Array :-

[10, 20, 30, 40, 50]

⇓

[50, 40, 30, 20, 10]

0 1 2 3 4 5

[6, 5, 4, 3, 2, 1]

Rotate an Array d = 11 ?

[1, 2, 3, 4, 5]

d = d % arr.length = 2

9 9 9 9

10 0 0 0

↓

[3, 4, 5, 1, 2]

d = 2

0 1 2 3 4

[1, 2, 3, 4, 5]

2 + 3 = n = 5

I II

[2, 1, 3, 4, 5]

[3, 4, 5]

II

[2, 1, 5, 4, 3]

3, 4, 5, 1, 2