0	1	2	3	4	5	6
3	5	1	6	2	4	7

A = [3 5 1 6 2 4 7]

A[2] + A[3] = 1 + 6 = 7

```
int[] A = new int[6];
Sop( A[5] + A[6]);
```

↓

Out of bounds error

0	1	2	3	4	5
0	0	0	0	0	0

Sop(A[5]) ⇒ 0

Q1: Given an array A[] of size N
Search for an element K
Return True if it is present else False

0	1	2	3	4	5	6
3,	2,	8,	9,	14,	10,	7

A:

K: 8 ⇒ True
K: 11 ⇒ False
K: 14 ⇒ True

```
boolean findK(int[] A, int k){

for(int i=0; i<A.length; i++){

if(A[i]==k){
```

```
            return true;
        }
    }
    return false;
}
```

A: [3, 2, 8, 9, 14, 10, 7]
K: 2

// Q2: Given an array A. Return the freq of element K in the array.

A: 3, 4, 1, 3, 7, 3, 3, 8
K: 3 K: 0
Ans: 4 Ans: 0

```
int findFreq(int A[], int k){
    int cnt = 0;
    for(int i=0; i<A.length; i++){
        if(A[i]==k){
            cnt = cnt+1;
        }
    }
    return cnt;
}
```

// Q3: Given an arr A. Return true if diff b/w any adjacent elements is equal to K.

index i ⇒ Adjacent are i-1 & i+1

arr[i] - arr[i+1] = k for any index i

	0	1	2	3	4
A:	3,	8,	4,	2,	9

k: -7 ⇒ True

k: -2 ⇒ False

```
boolean findDiffK (int A[], int k){

    for(int i=0; i<A.length-1; i++){

        if (A[i] - A[i+1] == k){
            return true;
        }
    }
    return false;
}
```

	0	1	2	3	4
A: [	3,	8,	4,	2,	9]

k: -2

i=0 A[0] - A[1] = 3-8 = -5 ⇒ X

i=1 A[1] - A[2] = 8-4 = 4 ⇒ X

i = 2 A[2] - A[3] = 4-2 = 2 ⇒ ✗

i = 3 A[3] - A[4] = 2-9 = -7 ⇒ ✗

i = 4 A[4] - A[5] ⇒ Error

Break - 10:15

Array Lists

```
int[] A = new int[n];
```

- Recommendations
- Cart
- Orders on swiggy / zomato
- Reviews

Array ⇒ Static

Array list ⇒ Dynamic

Syntax

```
int A[] = new int[n];
```

```
ArrayList<Integer> arr = new ArrayList<Integer>();
```

⇓

Integer, Long, Double, Float, String

Basic Operations

Add

```
arr.add(1);
arr.add(-2);
arr.add(10);
```

arr: ⇒ 0

: 1 (0) ⇒ 1

: 1 (0), -2 (1) ⇒ 2

: 1 (0), -2 (1), 10 (2) ⇒ 3

Get

: 1 (0), -2 (1), 10 (2)

```
arr.get(1); ⇒ -2
arr.get(0); ⇒ 1
arr.get(3); ⇒ Error
```

Size

: 1 (0), -2 (1), 10 (2)

```
arr.size(); ⇒ 3
```

Set

: 1 (0), -2 (1), 10 (2)

```
arr.set(1, -4);
```

: 1 (0), -4 (1), 10 (2)

```
arr.set(0, 3);
```

: 3 (0), -4 (1), 10 (2)

```
arr.set(3, 4); ⇒ Error
```

Code : https://www.interviewbit.com/snippet/6be5c679526370bf08e8/