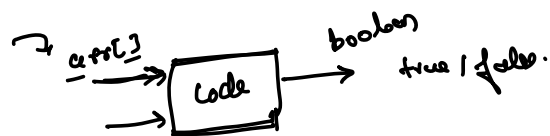


→ Q → Given an array  $A[]$  and int  $k$ . find if  $k$  is present in the array. if it present return true. else return false.

$A = [2, 4, 9, 6, 7, 11]$

$k = 11 \rightarrow \text{true}$        $k = 12 \rightarrow \text{false}$

$k = 9 \rightarrow \text{true}$        $k = 0 \rightarrow \text{false}$



static boolean search(int[] arr, int k) {

int n = arr.length;

for(int i=0; i<n; i++) {

if(arr[i] == k) {

return true

X break

return false; } }

$k = 8$   $k = 20$

2, 4, 6, 8

i	k
0	<u>2 == k</u>

$k = 6$

$arr = [2, 4, 6, 8]$

① finding element

i	i < n	arr[i] == k	return true	i++
0	T	$2 == 6 \rightarrow f$		1
1	T	$4 == 6 \rightarrow f$		2
2	T	$6 == 6 \rightarrow T$	<u>return true</u>	

② Not find  
an element

$A = [2, 4, 6, 8]$

$k = 7$

$i$	$i < n$	$arr[i] == k$	$i++$
0	T	$2 == 7 \rightarrow f$	1
1	T	$4 == 7 \rightarrow f$	2
2	T	$6 == 7 \rightarrow f$	3
3	T	$8 == 7 \rightarrow f$	4
4	F	come out of loop	

Q<sub>2</sub> → Given  $A[]$  and  $k$ . find the frequency of  $k$  in the array.

$arr = [2, 3, 9, 4, 3, 6, 4, 1, 2]$   $n = 9$

$k = 2 \rightarrow$  frequency

count = 0, 1, 2

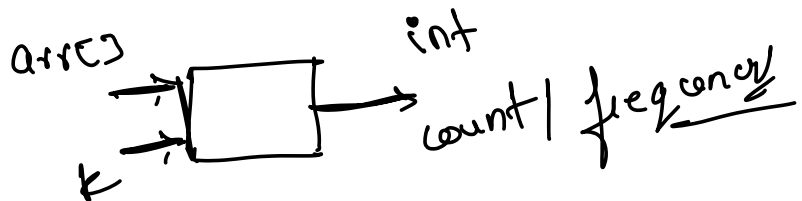
count++

o/p 2

$k = 3 \rightarrow 2$

$k = 9 \rightarrow 1$

$k = 5 \rightarrow 0$



```
static int frequency(int arr[], int k) {
```

```
    → int count = 0;
```

```
    → for (int i = 0; i < 6arr.length; i++) {
        if (arr[i] == k) {
            count++;
        }
    }
```

```
    → return count;
```

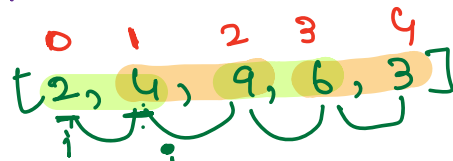
6 < 6 ✗  
 (i < 6)  
k = 2  
 arr = [1, 4, 6, 2, 7, 2]

count	i	arr[i] == k	count++	i++
0	0	1 == 2 → f	—	1
0	1	4 == 2 → f	—	2
0	2	6 == 2 → f	—	3
0	3	2 == 2 → T	1	4
1	4	7 == 2 → f	—	5
1	5	2 == 2 → T	2	6

⑥ → come out loop.

Op → 2.

Q3) Given  $A[]$  and  $k$ . find the difference between adjacent pairs, if the diff is equal  $k$  return true else return false.



adjacent pairs-

(2, 4)

(4, 9)

(9, 6)

(6, 3)

$i=0$  2, 4  $\rightarrow$  0, 1  $\rightarrow i+1$

$i=1$  4, 9  $\rightarrow$  1, 2  $\rightarrow i+1$

$i=2$  9, 6  $\rightarrow$  2, 3

$i$   $A[i+1] - A[i] == \text{diff} == k = 5.$

0  $A[1] - A[0] \Rightarrow 4 - 2 = 2 == 5) \times$

1  $A[2] - A[1] = 9 - 4 = 5 == 5)$

true  
done

Solution

wrong soln

```
static boolean checkdiff(int[] arr, int k) {
```

```
    int n = arr.length;
```

```
    for (int i = 0; i < n; i++) {
```

```
        if (arr[i+1] - arr[i] == k) {
```

```
            return true;
```

```
        }
```

```
    }
```

```
    return false;
```

(i+1)

always handle array  
out of bound.

k=5, n=4

arr = 2 4 6 3  
0 1 2 3

i i < n A[i+1] - A[i] == k i++

0 T A[1] - A[0] → 4 - 2 → f

1 T A[2] - A[1] → 6 - 4 = 2 → f

2 T A[3] - A[2] → 3 - 6 = -3 → f

3 T A[4] - A[3]

index out of bound  
exception.

Solution correct soln

```
static boolean checkdiff(int[] arr, int k) {
```

```
    int n = arr.length;
```

```
    for (int i = 0; i < n - 1; i++) {
```

```
        if (arr[i+1] - arr[i] == k) {
```

```
            return true;
```

```
        }
```

```
    }
```

```
    return false;
```

(i+1)  
always handle array  
out of bound.

→ loop condition

k=5, n=4

arr = 2 4 6 3  
0 1 2 3 -

i i < n-1 arr[i+1] - arr[i] == k i++

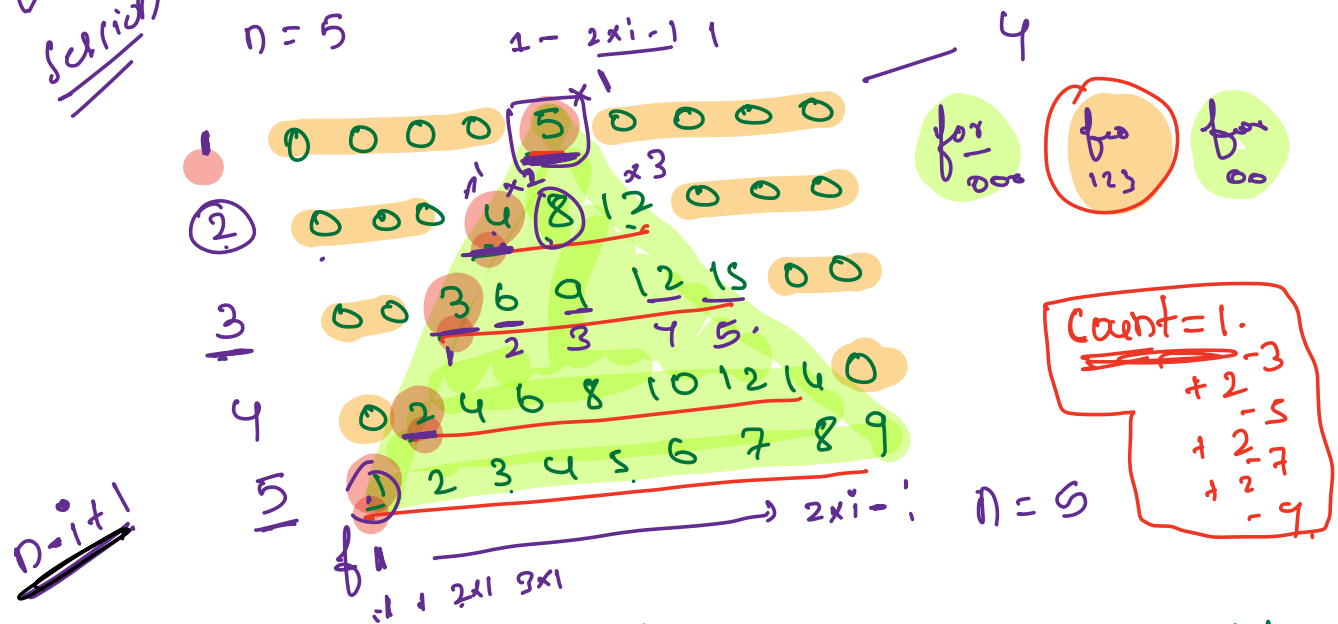
0 T arr[1] - arr[0] → F  
4 - 2

1 T arr[2] - arr[1]  
6 - 4 = 2 → F 2

2 T arr[3] - arr[2] 3

3 F → come out of loop.

## Death



00 3 6 9 12 15 00

in  $st = n - i + 1$

for ( $j=1$ ;  $j \leq 2^i - 1$ ;  $j++$ )  
 seq( $s + x \cdot j$ );

- 1

i	left	count of nos	st. value	right
1	4	1	5	4
2	3	3		3
3	2	5		2
4	1	7		1
5	0	9		0
	(n-i)	(2i-1)		(n+i)

`int c = 1;` → use for count logic only

```
for(int i=1; i<=n; i++) {
```

// for first zero's

```
for(int j=1; j<=n-i; j++) {
    sop("0");
}
```

1

```
int st = n-i+1;
```

```
for(int j=1; j<= c // 2i-1; j++) {
    sop(st*j);
}
```

2

```
for(int j=1; j<=n-i; j++) {
    sop("0");
}
```

3

```
c += 2;
```

```
sop(nc);
```

InterviewBit

Quick Tip  
You can now type `ide.new/java` in the address bar of your browser to open this page. 🐼

```

1 import java.util.*;
2
3 public class Main {
4
5     public static void main(String args[]){
6
7         Scanner sc = new Scanner(System.in);
8         int N = sc.nextInt(); // 4
9         int arr[] = new int[N];
10
11         // taking th inputs
12         for(int i=0; i<N; i++){ // 4 times
13             arr[i] = sc.nextInt(); // 4 times
14         }
15
16         //int k = sc.nextInt();
17
18         // boolean res = search(arr,k);
19
20
21
22
23
24         // int frequencyOfK = frequency(arr,k); //
25

```

Save Snippets



<https://www.interviewbit.com/snippet/d469fc3b2091d196b93b/>