

Quiz: What is full form of PAKISTAN?

Its an acronym :-

GK Quiz (Less than 0.01-1% people know it)
Even PAKISTANIS dont :-

Muslim League of India

1933

Punjab, Afghan, Kashmir, Iran, Sindh, Balochistan

Hindu \rightarrow Religion / Region

0 1 2 3 4 5 6
[3, 5, 1, 6, 2, 4, 7]

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

int A[] = new int [6];

SOP(A[5] + A[6]);

0 1 2 3 4 5

A: [0, 0, 0, 0, 0, 0] Out of bounds error

Array of size N

0 1 2 . . .

$N-1 \rightarrow$ last index

[.....]

[0 x] \Rightarrow N elements

[1 N] \Rightarrow N elements

[0 N-1] \Rightarrow N elements

// Q: 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
A: 3, 2, 8, 9, 14, 10, 7

K: 8 \Rightarrow True

K: 11 \Rightarrow False

K: 14 \Rightarrow True

boolean search (int[] A, int K) {

0 1 2 3
A: 3 2 8 6
K: 8
K: 11

```
    int n = A.length;
    for (int i = 0; i < n; i++) {
        if (A[i] == K) {
            return true;
        }
    }
    return false;
}
```

Return → Ends the function and returns answer

Break → End the current loop

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

A: 1 2 3 4
 3, 4, 1, 3, 7, 3, 3, 8
K: 3 → 4

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

// Q : Given an array A[]. Return true if diff b/w any adjacent elements is equal to k.

↓
next to each other

$$A[i] - A[i+1] = k$$

$A:$ $\overset{0}{3}, \overset{1}{8}, \overset{2}{4}, \overset{3}{2}, \overset{4}{9}$
 $k: -7 \Rightarrow \text{True}$
 $k: -2 \Rightarrow \text{False}$

```

boolean findDiff (int A[], int k) {
    int n = A.Length;
    for (int i = 0; i < n-1; i++) {
        if (A[i] - A[i+1] == k) {
            return true;
        }
    }
    return false;
}

```

Max $i \Rightarrow n-2$
 Condition $\Rightarrow A[n-2] - A[n-1] \neq k$

if condition in loop : $i < n$
 $i_{\max} = n-1$
 Condition $\Rightarrow A[n-1] - A[n] \Rightarrow \text{Error}$

Break : 10 : 15

Array List

```

int n = 10;
int arr[] = new int[n];

```

Arrays \Rightarrow static arrays
Array list \Rightarrow dynamic arrays

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

Long Double Boolean Float
String

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

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

// Basic ArrayList ops

// Add element

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

Representation

arr :

arr : 2

arr : 2 -1

arr : 2 -1 10
0 1 2

// Get element

```
SOP(arr.get(1));  $\Rightarrow$  -1
```

arr[1] x

```
SOP(arr.get(0));  $\Rightarrow$  2
```

arr.get(-1); \Rightarrow Error [Out of bound]

arr.get(4); \Rightarrow Error [Out of bound]

0 - - - - -

// Size of list
arr.size(); \Rightarrow 3

// Update element at an index
arr.set(index, value);

arr.set(1, 3);

arr.set(-1, 4);

\Downarrow

Error [out of bound]

arr : 2 -1 10
0 1 2

: 2 3 10
0 1 2

Code : <https://www.interviewbit.com/snippet/f67dde1facbb82efe3a8/>