

# Rajalakshmi Engineering College

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## 2024\_28\_III\_OOPS Using Java Lab

### 2028\_REC\_OOPS using Java\_Week 12\_Q2

Attempt : 1  
Total Mark : 10  
Marks Obtained : 10

#### Section 1 : Coding

##### 1. Problem Statement

Alex is learning about Java's functional interfaces and lambda expressions.

He wants to write a simple program that prints the square of each number in an array using a predefined functional interface.

Help Alex complete this task using the Consumer functional interface.

##### ***Input Format***

- The first line contains an integer N, the number of elements in the array.
- The second line contains N space-separated integers.

##### ***Output Format***

- Print the squares of all elements in the array, separated by a space.

Refer to the sample output for formatting specifications.

**Sample Test Case**

Input: 4

1 2 3 4

Output: 1 4 9 16

**Answer**

```
import java.util.*;
interface square {
    int[] cal(int[] arr);
}
class p {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int n = sc.nextInt();
        int[] arr = new int[n];
        for(int i = 0; i < n; i++) {
            arr[i] = sc.nextInt();
        }
        square sq = (arr1) -> {
            int[] arr2 = new int[n];
            int i = 0;
            for(int r : arr1) {
                arr2[i++] = r * r;
            }
            return arr2;
        };
        int[] arr3 = sq.cal(arr);
        for(int i = 0; i < n; i++) {
            System.out.printf("%d ", arr3[i]);
        }
    }
}
```

**Status :** Correct

**Marks : 10/10**