



# Java 1D Array ☆

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## Problem

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An array is a simple data structure used to store a collection of data in a contiguous block of memory. Each element in the collection is accessed using an index, and the elements are easy to find because they're stored sequentially in memory.

Because the collection of elements in an array is stored as a big block of data, we typically use arrays when we know exactly how many pieces of data we're going to have. For example, you might use an array to store a list of student ID numbers, or the names of state capitals. To create an array of integers named *myArray* that can hold four integer values, you would write the following code:

```
int[] myArray = new int[4];
```

This sets aside a block of memory that's capable of storing 4 integers. Each integer storage cell is assigned a unique index ranging from 0 to one less than the size of the array, and each cell initially contains a 0. In the case of *myArray*, we can store integers at indices 0, 1, 2, and 3. Let's say we wanted the last cell to store the number 12; to do this, we write:

```
myArray[3] = 12;
```

Similarly, we can print the contents of the last cell with the following code:

```
System.out.println(myArray[3]);
```

The code above prints the value stored at index 3 of *myArray*, which is 12 (the value we previously stored there). It's important to note that while Java initializes each cell of an array of integers with a 0, not all languages do this.

## Task

The code in your editor does the following:

1. Reads an integer from stdin and saves it to a variable, *n*, denoting some number of integers.
2. Reads *n* integers corresponding to  $a_0, a_1, \dots, a_{n-1}$  from stdin and saves each integer  $a_i$  to a variable, *val*.
3. Attempts to print each element of an array of integers named *a*.

Write the following code in the unlocked portion of your editor:

1. Create an array, *a*, capable of holding *n* integers.
2. Modify the code in the loop so that it saves each sequential value to its corresponding location in the array. For example, the first value must be stored in  $a_0$ , the second value must be stored in  $a_1$ , and so on.

Good luck!

## Input Format

The first line contains a single integer, *n*, denoting the size of the array.

Each line *i* of the *n* subsequent lines contains a single integer denoting the value of element  $a_i$ .

## Output Format

You are not responsible for printing any output to stdout. Locked code in the editor loops through array *a* and prints each sequential element on a new line.

## Sample Input

```
5
10
20
30
40
```

Author

Shafaet

Difficulty

Easy

Max Score

5

Submitted By

78874

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```
40
50
```

### Sample Output

```
10
20
30
40
50
```

### Explanation

When we save each integer to its corresponding index in  $a$ , we get  $a = [10, 20, 30, 40, 50]$ . The locked code prints each array element on a new line from left to right.

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```
1 import java.util.*; ...
```

```
9
```

```
10
```

```
11
```

```
12 scan.close(); ...
```

Line: 9 Col: 1

Upload Code as File ☐ Test against custom input

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