

# Java

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# Agenda

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- Arrays
- Single Dimensional Array
- Multi Dimensional Array

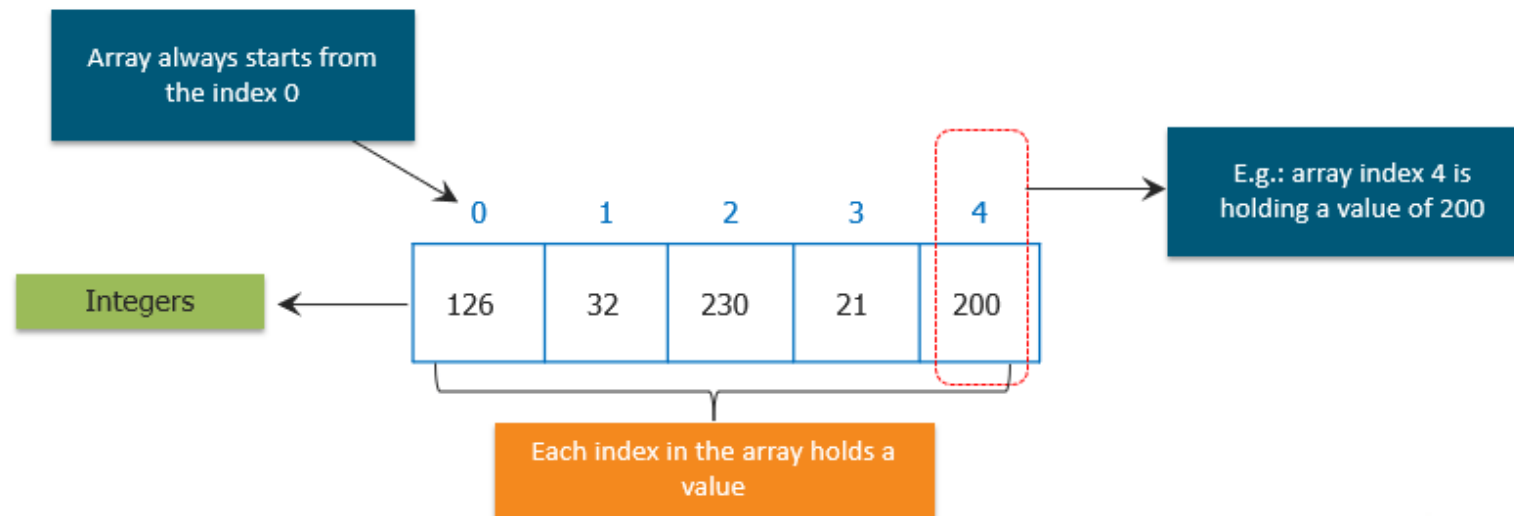
# What are Java Arrays?

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- An *array* is a container object that holds a fixed number of values of a single type.
- The length of an array is established when the array is created. After creation, its length is fixed.
- There are 2 types of arrays
  1. Single Dimensional
  2. Two Dimensional(Double Dimensional)

# Single Dimensional Array

- Declare array
- Insert values into array
- Find the size of array
- How to read/access values from array



# Multi Dimensional Array

- Declare array
- Insert values into array
- Find the size of array
- How to read/access values from array

```
int [][]a= new int [2][2];
```

	0	1
0	1	4
1	4	5

2 x 2 dimensional int array

```
char [][]a= new char[3][2];
```

	0	1
0	s	a
1	g	v
2	v	d

```
float [][]a= new float[5][5];
```

	0	1	2	3	4
0	2.2	3.4	5.0	3.3	1.2
1	7.8	9.0	1.1	2.9	5.5
2	2.0	3.0	7.8	9.8	9.9
3	5.7	6.6	8.8	5.3	2.7
4	1.8	4.4	7.6	1.0	1.1

5 x 5 dimensional float array

# Assignment (Arrays)

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1. Write a Java program to calculate sum values of an array.
2. Write a Java program to calculate average of values of an array.
3. Write a Java program to print even and odd numbers in an array.
4. Write a Java program to find missing number in an array.
5. Write a program to find greatest and smallest element in an array.
6. Write a program count multiples of a number in an array.
7. Write a program to check equality of arrays.
  - Using for loop
  - Using `Arrays.equals()` method
8. Add two matrices using 2 dimensional array