

# Multidimensional Arrays

A multidimensional array is an array of arrays.

Multidimensional arrays are useful when you want to store data as a tabular form, like a table with rows and columns.

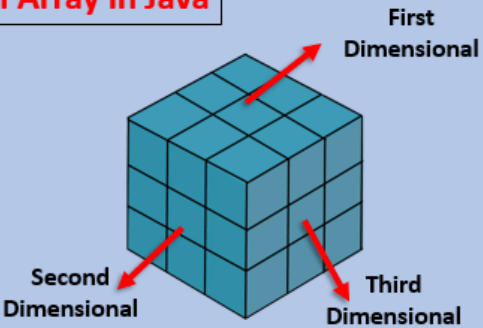
To create a two-dimensional array, add each array within its own set of curly braces:

## Multidimensional Array in Java

**Types of Multidimensional Array in Java**

	Column 0	Column 1	Column 2
Row 0	X[0][0]	X[0][1]	X[0][2]
Row 1	X[1][0]	X[1][1]	X[1][2]
Row 2	X[2][0]	X[2][1]	X[2][2]

**2D-Array**



**3D-Array**

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## Example

```
int[][] myNumbers = { {1, 2, 3, 4}, {5, 6, 7} };
```

## Access Elements

To access the elements of the myNumbers array, specify two indexes: one for the array, and one for the element inside that array. This example accesses the third element (2) in the second array (1) of myNumbers:

## Example

```
int[][] myNumbers = { {1, 2, 3, 4}, {5, 6, 7} };
```

```
System.out.println(myNumbers[1][2]); // Outputs 7
```

## Loop Through a Multi-Dimensional Array

We can also use a `for loop` inside another `for loop` to get the elements of a two-dimensional array (we still have to point to the two indexes):

## Example

```
public class Main {  
    public static void main(String[] args) {  
        int[][] myNumbers = { {1, 2, 3, 4}, {5, 6, 7} };  
        for (int i = 0; i < myNumbers.length; ++i) {  
            for(int j = 0; j < myNumbers[i].length; ++j) {  
                System.out.println(myNumbers[i][j]);  
            }  
        }  
    }  
}
```

```
}
```

```
}
```

## Getting input from user for 2D Array

```
int[ ][ ] num = new int[3][4];  
for(int i=0; i<3; i++)  
{  
    for(j=0; j<4; j++)  
    {  
        num[i][j] = obj.nextInt();  
    }  
}
```

i=0 j=0    i=0 j=1    i=0 j=2    i=0 j=3  
i=1 j=0    i=1 j=1    i=1 j=2    i=1 j=3  
i=2 j=0    i=2 j=1    i=2 j=2    i=2 j=3

Columns j

Rows i	Index	num[0]	num[1]	num[2]	num[3]
	num[0]	11	22	33	44
	num[1]	55	71	77	88
	num[2]	10	26	88	10

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