

# Arrays

Shristi Technology Labs

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- One Dimensional Arrays
- Two Dimensional Arrays
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# One Dimensional Arrays

## Declaration

***datatype variablename[ ]***

***eg. int marks[ ]; or int [ ]marks;                      null***

## Declare & initialize

***variablename= new datatype[size]***

***eg. int marks[ ];    null***

***marks = new int[3];***

***marks[0]=0;                      marks.length=3***

## Populating

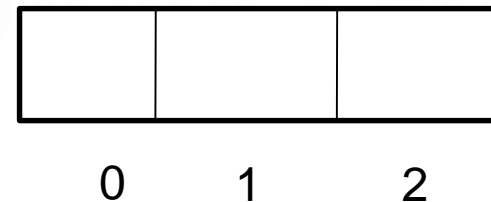
***marks[0] = 90;***

***marks[1] = 60;***

***marks[2] = 70;***

***marks[3] = 70; →***

***ArrayIndexOutOfBoundsException***



# Two Dimensional Arrays

## Declaration

***datatype varname[ ][ ]***

***eg. int marks[ ][ ]; or int [ ][ ]marks;***

## Declare & initialize

***varname[ ][ ]= new datatype[no of rows][no of columns]***

***eg. int marks[ ][ ];***

***marks = new int[3][2];***

row

*null*

***marks[1][1]=0;***

## Populating

***marks[0][0] = 90;***

***marks[0][1] = 60;***

***marks[1][0] = 80;***

***marks[1][1] = 95;***

***marks[2][1] = 60;***

***marks[3][2]=69;→***

column  
row

0,0	90	0,1	60
1,0	80	1,1	95
2,0	80	2,1	60

***ArrayIndexOutOfBoundsException***

# Declare, initialize & populate

## One – Dimensional

```
int [ ]marks = new int[ ]{60,80,90,40}
```

## Two – Dimensional

```
String [ ][ ]names = new String[ ][ ]{ {"Ram", "shyam"}, {"mm",  
    "kk"} }
```

```
int marks[ ][ ]=new int [ ][ ]{{10,20,30},{60,70,80}};
```

# Dynamic Initialization of Arrays

## Dynamic Allocation

```
int marks[ ][ ] = new int[3][ ];
```

row                      column

```
marks[0] = new int[2];
```

```
marks[1] = new int[3];
```

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

0,0		0,1	
1,0	1,1		1,2
2,0		2,1	

```
marks[1][0] = 40;
```

```
marks[1][1] = 30;
```

```
marks[1][3] →                      AIOOB Exception
```

If marks[2] is not allocated

**comment** `//marks[2] = new int[2];`

0		0
40	30	0

```
marks[2][0]=90; →
```

**NullPointerException**

# Quiz

1. `int marks[ ];`  
`System.out.println(marks[4])` → ***NullPointerException***
2. `int marks[ ] = new int[4];`  
`System.out.println(marks[4])` → ***ArrayIndexOutOfBoundsException***
3. `int marks[ ] = new int[4];`  
`System.out.println(marks[2])` → ***0***

# Summary

- One Dimensional Arrays
- Two Dimensional Arrays
- Dynamic Initialization of arrays



**Thank You**