

Copyright © 2016 by The Learning House.

All rights reserved. No part of these materials may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of The Learning House. For permission requests, write to The Learning House, addressed “Attention: Permissions Coordinator,” at the address below.

The Learning House
427 S. 4th Street #300
Louisville KY 40202



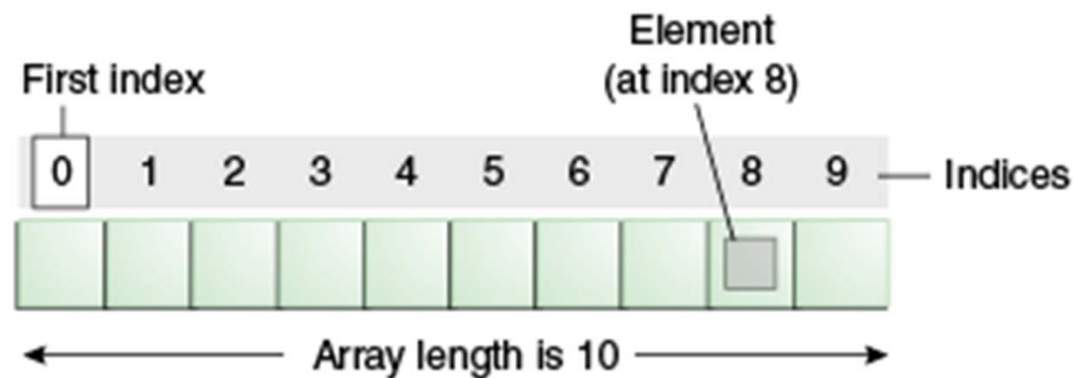
Java Basics Unit

Lesson 8 - Arrays

Objectives

- Understand how to create, use, and manipulate arrays in a Java program

What is an array?



Array Declaration

```
int[] teamScores;
```

```
teamScores = new int[10];
```

Array Initialization

```
teamScores[0] = 2;    // initialize first element
teamScores[1] = 45;   // initialize second element
teamScores[2] = 4;    // etc...
teamScores[3] = 8;
teamScores[4] = 99;
teamScores[5] = 23;
teamScores[6] = 67;
teamScores[7] = 1;
teamScores[8] = 88;
teamScores[9] = 42;
```

```
int[] teamScores = {
    2, 45, 4, 8, 99,
    23, 67, 1, 88, 42
};
```

Accessing Elements

```
int currentScore = teamScores[2];
teamScores[4] = 109;

for (int i = 0; i < teamScores.length; i++) {
    System.out.println("Element = " + teamScores[i]);
}

for (int num : teamScores) {
    System.out.println("Element = " + num);
}
```

Min/Max/Average Example

- Can we do this without arrays? How?
 - Are there limitations?
 - Let's write it
-
- What if I want to be able to list all the entries to screen at the end? How?
 - Let's write it

Two Dimensional Arrays

```
String[][] cityTeamNames = {  
    {"Cleveland", "Browns", "Cavs", "Indians"},  
    {"Columbus", "Bluejackets", "Buckeyes"},  
    {"Pittsburgh", "Steelers", "Pirates", "Penguins"}  
};  
  
for (int i = 0; i < cityTeamNames.length; i++) {  
    for (int j = 0; j < cityTeamNames[i].length; j++) {  
        System.out.print(cityTeamNames[i][j] + " ");  
    }  
    System.out.println();  
}
```