Arrays

Overview

- Allows you to store a number of items that have the same primitive type, the same class, or a common parent class.

Creating array objects

- Declare the array
  - Specify the type of items that the array will store by specifying the primitive type or class and a pair of empty brackets ([])

    Example:

    ```
    String[] players;
    ```
- Create the array object
  - Use the new operator and specify the size inside the brackets.

    Example:

    ```
    players = new String[2];
    ```

Creating array objects

- Populate the array with elements
  - Use the array name and the index (subscript) to specify the value for each slot in the array:

    Example:

```
players[0] = "Player one";
players[1] = "Player two";
```

- Alternatively, do all three steps in a single expression

```
String[] players = new String[] {"Player one", "Player two"};
```

Accessing array elements

- Accessing an array element is done by providing the index of that element within the array.

  Example:

  ```
  String player = players[0];
  ```

- Java uses a zero based index (the index of the first element within the array is 0).
- The size of the array can be obtained from the arrays "length" attribute:

  Example:

  ```
  System.out.println(“Elements: “ + players.length);
  ```

Changing array elements

- Assigning a value to a specific slot within the array is achieved by providing an assignment statement after the array name and index:

  Example:

```
players[1] = "Some other player";
```

Example: HalfDollars