rayList

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List

ss is a resizable array, which can be found in the `java.util`

veen a built-in array and an `ArrayList` in Java, is that the size of an odified (if you want to add or remove elements to/from an array, you ew one). While elements can be added and removed from an ver you want. The syntax is also slightly different:

Create an `ArrayList` object called **cars** that will store strings:

```
import java.util.ArrayList; // import the ArrayList class

ArrayList<String> cars = new ArrayList<String>(); // Create an ArrayList object
```

If you don't know what a package is, read our Java Packages Tutorial.

Add Items

The `ArrayList` class has many useful methods. For example, to add elements to the `ArrayList`, use the `add()` method:

Example

```
import java.util.ArrayList;

public class Main {
  public static void main(String[] args) {
    ArrayList<String> cars = new ArrayList<String>();
    cars.add("Volvo");
    cars.add("BMW");
    cars.add("Ford");
    cars.add("Mazda");
    System.out.println(cars);
  }
}
```

Try it Yourself »

Access an Item

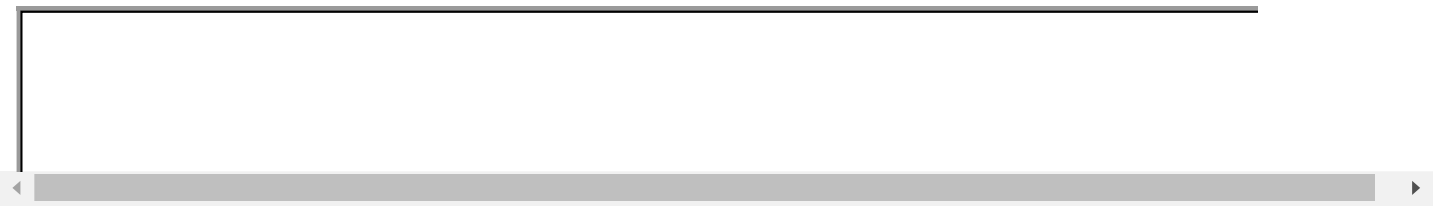
To access an element in the `ArrayList`, use the `get()` method and refer to the index number:

Example

```
cars.get(0);
```

Try it Yourself »

Remember: Array indexes start with 0: [0] is the first element. [1] is the second element, etc.



Change an Item

To modify an element, use the `set()` method and refer to the index number:

Example

```
cars.set(0, "Opel");
```

Try it Yourself »

Remove an Item

To remove an element, use the `remove()` method and refer to the index number:

Example

```
cars.remove(0);
```

To remove all the elements in the `ArrayList`, use the `clear()` method:

Example

```
cars.clear();
```

Try it Yourself »

ArrayList Size

To find out how many elements an ArrayList have, use the `size` method:

Example

```
cars.size();
```

Try it Yourself »

Loop Through an ArrayList

Loop through the elements of an `ArrayList` with a `for` loop, and use the `size()` method to specify how many times the loop should run:

Example

```
  public static void main(String[] args) {
    ArrayList<String> cars = new ArrayList<String>();
    cars.add("Volvo");
    cars.add("BMW");
    cars.add("Ford");
    cars.add("Mazda");
    for (int i = 0; i < cars.size(); i++) {
      System.out.println(cars.get(i));
    }
  }
}
```

Try it Yourself »

You can also loop through an `ArrayList` with the **for-each** loop:

Example

```
public class Main {
  public static void main(String[] args) {
    ArrayList<String> cars = new ArrayList<String>();
    cars.add("Volvo");
    cars.add("BMW");
    cars.add("Ford");
    cars.add("Mazda");
    for (String i : cars) {
      System.out.println(i);
    }
  }
}
```

Try it Yourself »

Other Types

primitive type). To use other types, such as int, you must specify an equivalent wrapper class: `Integer`. For other primitive types, use: `Boolean` for boolean, `Character` for char, `Double` for double, etc:

Example

Create an `ArrayList` to store numbers (add elements of type `Integer`):

```
import java.util.ArrayList;

public class Main {
  public static void main(String[] args) {
    ArrayList<Integer> myNumbers = new ArrayList<Integer>();
    myNumbers.add(10);
    myNumbers.add(15);
    myNumbers.add(20);
    myNumbers.add(25);
    for (int i : myNumbers) {
      System.out.println(i);
    }
  }
}
```

Try it Yourself »

Sort an ArrayList

Another useful class in the `java.util` package is the `Collections` class, which include the `sort()` method for sorting lists alphabetically or numerically:

Example

Sort an ArrayList of Strings:

```
import java.util.Collections;  // Import the Collections class
```



```
public class Main {
  public static void main(String[] args) {
    ArrayList<String> cars = new ArrayList<String>();
    cars.add("Volvo");
    cars.add("BMW");
    cars.add("Ford");
    cars.add("Mazda");
    Collections.sort(cars);  // Sort cars
    for (String i : cars) {
      System.out.println(i);
    }
  }
}
```

Try it Yourself »

Example

Sort an ArrayList of Integers:

```
import java.util.ArrayList;
import java.util.Collections;  // Import the Collections class

public class Main {
  public static void main(String[] args) {
    ArrayList<Integer> myNumbers = new ArrayList<Integer>();
    myNumbers.add(33);
    myNumbers.add(15);
    myNumbers.add(20);
    myNumbers.add(34);
    myNumbers.add(8);
    myNumbers.add(12);

    Collections.sort(myNumbers);  // Sort myNumbers

    for (int i : myNumbers) {
      System.out.println(i);
```

```
}
```


Try it Yourself »

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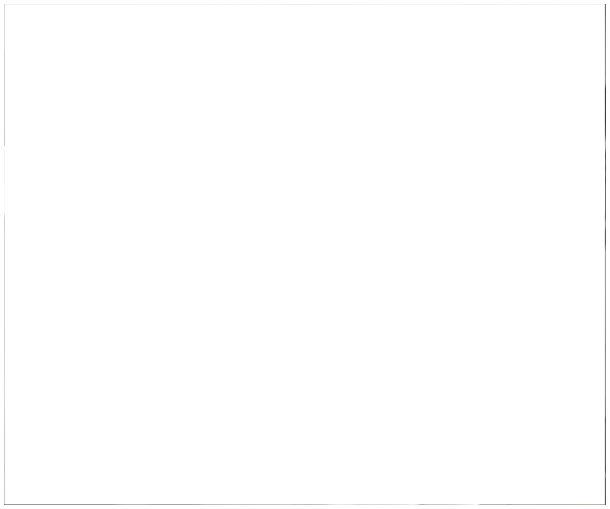

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