Java Class Attributes

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Java Class Attributes

In the previous chapter, we used the term "variable" for `x` in the example (as shown below). It is actually an **attribute** of the class. Or you could say that class attributes are variables within a class:

Example

Create a class called "`Main`" with two attributes: `x` and `y`:

```
public class Main {
  int x = 5;
  int y = 3;
}
```

Another term for class attributes is **fields**.

Accessing Attributes

You can access attributes by creating an object of the class, and by using the dot syntax (`.`):

The following example will create an object of the `Main` class, with the name `myObj` . We use the `x` attribute on the object to print its value:

Example

Create an object called " `myObj` " and print the value of `x` :

```
public class Main {
  int x = 5;

  public static void main(String[] args) {


  }
}
```

Try it Yourself »

Modify Attributes

You can also modify attribute values:

Example

Set the value of `x` to 40:

```
public class Main {
  int x;

  public static void main(String[] args) {
```

```
    Main myObj = new Main();
    myObj.x = 40;
    System.out.println(myObj.x);
  }
}
```

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Or override existing values:

Example

Change the value of `x` to 25:

```
public class Main {
  int x = 10;

  public static void main(String[] args) {
    Main myObj = new Main();

    System.out.println(myObj.x);
  }
}
```

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If you don't want the ability to override existing values, declare the attribute as `final` :

Example

```
public class Main {


  public static void main(String[] args) {
    Main myObj = new Main();
```

```
    myObj.x = 25; // will generate an error: cannot assign a value to a final va
    System.out.println(myObj.x);
  }
}
```

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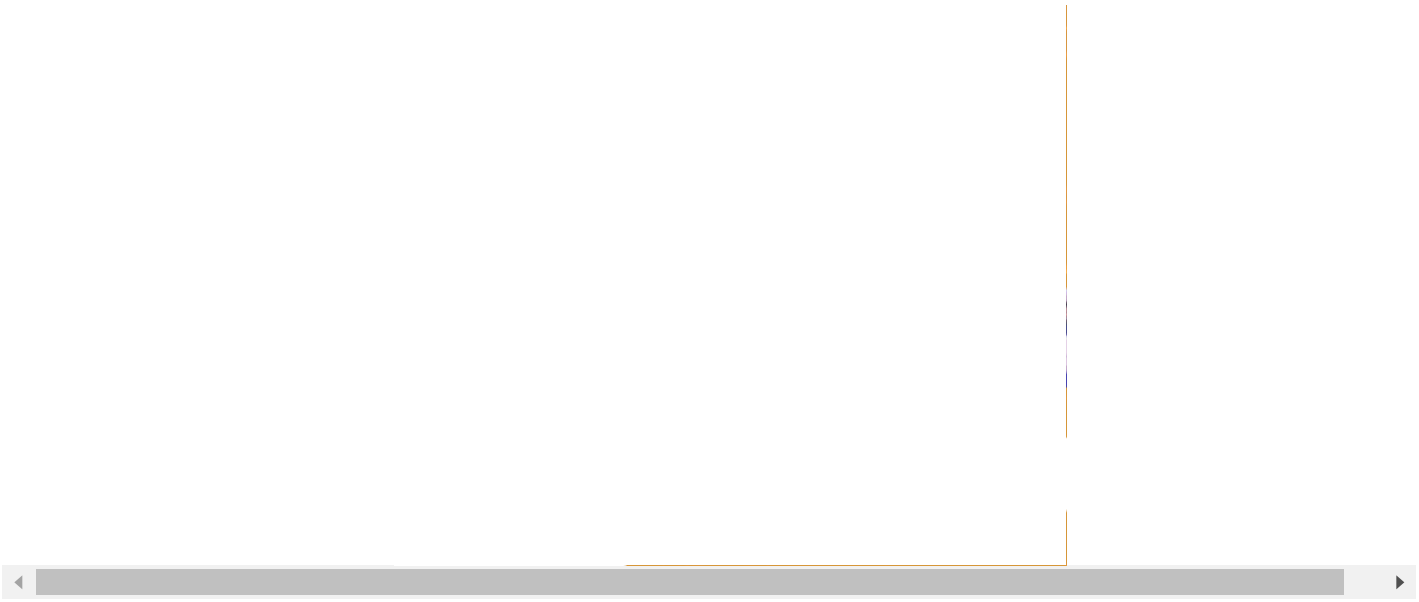
The `final` keyword is useful when you want a variable to always store the same value, like PI (3.14159...).

The `final` keyword is called a "modifier". You will learn more about these in the Java Modifiers Chapter.



Multiple Objects

If you create multiple objects of one class, you can change the attribute values in one object, without affecting the attribute values in the other:

Example

Change the value of `x` to 25 in `myObj2`, and leave `x` in `myObj1` unchanged:

```
public class Main {
  int x = 5;

  public static void main(String[] args) {
    Main myObj1 = new Main();  // Object 1
    Main myObj2 = new Main();  // Object 2
    myObj2.x = 25;
    System.out.println(myObj1.x);  // Outputs 5
    System.out.println(myObj2.x);  // Outputs 25
  }
}
```

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Multiple Attributes

You can specify as many attributes as you want:

Example

```
public class Main {
  String fname = "John";
  String lname = "Doe";
  int age = 24;

  public static void main(String[] args) {
    Main myObj = new Main();
    System.out.println("Name: " + myObj.fname + " " + myObj.lname);
    System.out.println("Age: " + myObj.age);
  }
}
```

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The next chapter will teach you how to create class methods and how to access them with objects.

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