Class Constructors

Contents

Overview

A constructor in Java is a method that is used to instantiate objects.

The constructor is called immediately when an object of a class is created. It can be used to set initial values for object attributes.

Constructors

A constructor must have the same name as the containing class, this lets the compiler know it is not like other methods in the class.

Constructors must not have a return type (not even void).

```
public class Trainee {
    private String name;
    private String pathway;

    public Trainee(){
        this.name = "Bob";
        this.pathway = "Software Development";
    }
}
```

Instantiation

The act of instantiating a class simply refers to creating a new object using that class as a template.

Parameters

Constructors can also take parameters, which are used to initialise attributes. There is no limit to the number of parameters you may include.

We'll change the above example to include parameters.

```
public class Trainee {
    private String name;
    private String pathway;

    public Trainee(String name, String pathway){
        this.name = name;
        this.pathway = pathway;
    }
}
```

To create an instance of this object we need to call the class, including any parameters of the constructor

```
public static void main(String[] args) {
    Trainee bob = new Trainee("Bob", "Software Development");
}
```

Overloading

Constructors can also be 'overloaded' this means you can have multiple constructors for a class with different input parameters.
Java will automatically use the constructor that matches the provided parameters.

```
public class Trainee {
    private String name;
    private String pathway;
    private boolean hired = false;

    public Trainee(String name, String pathway){
        this.name = name;
        this.pathway = pathway;
    }

    public Trainee(String name, String pathway, boolean hired){
        this.name = name;
        this.pathway = pathway;
        this.hired = hired;
    }
}
```

```
public static void main(String[] args) {
    Trainee bob = new Trainee("Bob", "Software Development");
    Trainee bill = new Trainee("Bill", "DevOps", true);
}
```

Tutorial

There is no tutorial for this module

Exercises

There is no exercise for this module