

Chapter 2:

Object Oriented Design

In OOD, you have objects. You can create objects and handled them based on their attributes and behaviors.

Examples:

Objects	Attributes and states	Behaviors
aRectangle	x, y, width, height	create, translate
cerealBox	x,y,width, height	create, translate
aCar	mileage, model, gasTank	addGas, useGas
worldGreeter	name	sayHello
aBankAccount	balance	deposit, withdrawal
currentTemp	fahrenheit, celsius	converToCels, converToFahr
aPerson	height, weight, gender	growth, updateWeight

In java every object belongs to a class. Attributes and states of an object make up the instance fields of an object. The behaviors of an object are what is called its methods.

Classes are like factories for objects. You can also say that a Class is like the object's blue print.

In the examples above, the object class could be named as follows:

Object	Class
aRectangle	Rectangle
cerealBox	Rectangle
aCar	Car
worldGreeter	Greeter
aBankAccount	BankAccount
currentTemp	Temperature
aPerson	Person

Before we look at a class, let's take a look at two variables and their "type":

Variables: String's and int's

```
String message = " Hello, World"
```

```
int aNumber = 14;
```

Now let's define the class Greeter:

```
public class Greeter
```

```
{
```

Same
name

```
public Greeter(String aName)
```

```
{
```

```
    name = aName;
```

```
}
```

instance
field

return
type

method
name

```
Public String sayHello()
```

```
{
```

```
    String message = "Hello, " + name + "!";  
    return message;
```

```
}
```

keyword

```
private String name;
```

```
}
```

Constructor

method

instance field