<https://www.tutorialspoint.com/java/java_unicode_system.htm>

<https://javaconceptoftheday.com/>

**Java - Classes and Objects:**

Class : Blue print for creating the objects. It is logically exists.

Object: instance of a class. It is physically exists.

Blue print: its template. Eg: House blue print. It is logical.



Is it real? Is it existing? Is physical or logical?

There is a House.

Animal. 🡪 4 legs, 1 tail, 2 eyes, white teeth.

Running(), walkng(), eating(), makeSounds(), sleeping()….

All these are ogically exists. what

Dog, cat, Tiger, lion..etc 🡪 4 legs, 1 tail, 2 eyes, white teeeth.

Running(), walkng(), eating(), makeSounds(), sleeping()….

All these are physically existing. Whatever physically exists in the world is called as Object.

What ever you see with your eyes is called as Object.

**Object: every object should contain below properties.**

1. State 🡪 means : **properties / fields/ variables**.
2. Behavior: **methods / functions / actions**
3. Identity. -OPTIONAL.: object name / object reference name.

**State:**

Every object has some **properties / fields/ variables**.

Those properties are called as state.

For example:

Book properties: width, size, weight, price, no:of pages, author name.

Bike properties: color, weight, price, speed, milage, lights, bikeCompanyName, wheels type, etc…

Etc..examples.

**Behavior:**

Every object performs some actions; those actions are called as **behavior / methods / functions / actions**.

For example:

Book actions: reading(), writing(), playing(), beating(),

Bike actions: riding(), engineBeating(), spped(), stunts(), etc….

**Identity:**

Means giving a name to the object. It is optional. If an object doesn’t have identity means we can not say it is not an object. Even though it is not having identity but still it is having STATE and BEHAVIOR.

Class and objects both have state, behavior and identity. A class have logical state, behavior and identity.

But an object have physical state, behavior and identity.

Now our target is to convert every object state and behavior as program.

Without class there is No object. Means first we need to create class, then after using that class we need to create object.

<https://www.tutorialspoint.com/java/java_oops_concepts.htm>

OOP’s concepts:



Class

Object

**P**olymorphism.

**I**nheritance.

**E**ncapsulation. (**PIE**).

Abstraction.

What a class contains?

1. Constructors.
2. Properties / Fields / Variables.
3. Methods – Abstract methods, concrete methods, static methods.
4. Enums.

What types of Classes we have?

1. Classes with business logic.
2. Class for storing the data and transferring the data. (**POJO**-Plain Old Java Object **class**)

STS 🡪 File 🡪 new 🡪 Maven project🡪 next 🡪 type “**maven-archetype-quickstart**” 🡪 click next button 🡪



Next fill the required details.



Here “**Group Id**” means package name.

“**artifcatId**” means project name.

And click on finish button. Your Maven project will be created.

Below is the maven project structure created.



Here

**src/main/java** 🡪 this the place where we are going to write java code under given package. (com.skh is package).

src/test/java 🡪 this is the place where we are going to write test cases.

Pom.xml file 🡪 it is MAVEN related file. 🡪 which is used for downloading external jars.

**Jar?**

Whenever any developer develops the project. That project will be released in different formats..exe, .bat, ;.pdf, .text, .apk,

In java, developed projects are released in below different formats.

1. .Jar (Java Archives).
2. .war (Web Archive).
3. .ear (Enterprise Archive)

Developed software will be release in above formats.