Lecture 2: POP vs. OOP, Java Features, Class, Object

Differences between procedural and object oriented programming:

	POP	**OOP**
Divide Into	In POP, program is divided into small parts called functions.	In OOP, program is divided into parts called objects.
Importance	In POP, importance is not given to data but to functions as well as a sequence of actions to be done.	In OOP, Importance is given to the data rather than procedure or functions because it works as a real world.
Data Hiding	POP does not have any proper way for hiding data so it is less secure.	OOP provides data hiding so provides more security.
Access Specifier	POP does not have any access specifiers.	OOP has access specifiers named Public, Private, Protected, etc.
Overloading	In POP, Overloading is not possible.	In OOP, overloading is possible in the form of Function Overloading and Operator Overloading.
Data Access	In POP, Most function uses Global data for sharing that can be accessed freely from function to function in the system.	In OOP, data cannot move easily from function to function, it can be kept public or private so we can control the access of data.
Data Moving	In POP, Data can move freely from function to function in the system.	In OOP, objects can move and communicate with each other through member functions.
Approach	POP follows Top Down approach**.**	OOP follows Bottom Up approach**.**
Examples	E.g. C, VB, FORTAN, Pascal	E.g. JAVA, VB.NET, C#.NET.

Java Features or java Buzzword:

1. **Simple**
2. **Object-Oriented**
3. **Portable/Platform independent**
4. **Architecture neutral**
5. **Secured**
6. **Robust**
7. **Compiled and Interpreted**
8. **Multithreaded**
9. **Distributed**
10. **Dynamic**

Class:

A class is a group of objects which have common properties. It is a template or blueprint from which objects are created. It is a logical entity. It can't be physical.

A class in Java can contain: Fields, Methods, Constructors, Blocks, Nested class and interface.

Syntax:

```
class <class_name>{
        field;
        method;
```

}

Object:
An entity that has state and behavior is known as an object.
E.g. chair, bike, marker, pen, table, car etc.