Chapter1 : Overview of Object-Oriented Programming Technology

\* OOP

-Programming Technique to implement a software solution on the basis of methodology and one (or more) programming language in accordance with the specific requirements of app.

\* Programming language

-A standardized language

- Both humans and computers can read and understand

- Use the corresponding compiler to compile the entire source program into machine code before execution

1.3 OOP

-All the element representation in a system are objects

- Object orientation is a technique of modeling a system into multiple objects that interact with each other.

1.4 OOT

- OOT : a set of rules (including abstraction, encapsulation, inheritance.

1.5 Fundamental principles of OOT

1.5.1 Abstraction

- Process of removing specific info and retaining general info.

- Focus on the basic features of an entity that distinguish it from other entities.

- Depent on the viewing angle.

-> description -> depends on the view(problems or who is deal with the car)

1.5.2 Encapsulation

- Hide the inside implementation details

- Provide an interface to the outside world.

- Usage is unaffected by internal details

1.5.3 Inheritance

- Descibe sth on different level of abstraction using the relationship (a kind of )

1.5.4 Polymorphism(One name many forms).

-Describe an object in different ways

- Perform an action in different ways

2. Object and class

2.1 Object definition

- Object in the real world is an entity that we can perceive normally (see, touch, hear,etc).

- It has state and behavior

2.2 Object in OOP

- Object include : Attribute(state) and methods(behavior).

- Focus on the Object sending and receiving

2.4 Class

Class is a design (blueprint) or a prototype (template) for all objects of the same kind

-Each object is a specific instance of a class

- Each instance of a class has its own instance attribute.

2.5 Interaction between objects

- In the real world:

- Objects in OOP communicate via messages:

Message Vs Method:

Message :

- is a signal sent from one object to another

- not include the implementation code block

Method:

* Procedure/function in structure programming
* Is an implementation code block corresponding to each message sent to object.

Linux and open source Softwares