The 4 Principles of Object Oriented Programming



Abstraction



1. Abstraction

Abstraction means focusing only on the most important information about an object, ignoring less relevant details.

In programming, abstraction allows you to create simple and clear models of objects, hiding complex details and abstractly representing a system.



2. Encapsulation

Encapsulation means that you put your data (attributes) and actions (methods) inside a class and control who can access them. This helps prevent parts of your code from unduly interfering with other parts, making your program more organized and secure.

ANIMAL CLASS









3. Inheritance

,Inheritance is like passing traits from one thing to another like parents passing traits on to their children. In programming, you can create a new class based on another existing class, called a parent class or superclass. The new , class inherits the attributes and methods of the parent class .being able to add new things or customize the behavior .This helps reuse code and create object hierarchies

Polymorphism

One Interface - Multiple Implementations









4. Polymorphism

We can understand polymorphism as an object that acts in different ways depending on the context, like a key that can fit in different types of locks. In programming, polymorphism allows different classes to share the same method name, but each class implements that method in a specific way. This allows for treating different objects uniformly, making the .code more flexible and adaptable