**8 ) Method Overloading and Overriding**

* **Method overloading: defining multiple methods with the same name but different parameters.**

Method overloading means defining multiple methods with the same name but different parameters (number or type). It is a way to perform different tasks using the same method name.

* A single method name is defined multiple times in the same class.
* Each definition has different parameters (number, type, or order).
* The correct method is called based on the arguments passed.

Note: **Python does not support true method overloading** by default

* **Method overriding: redefining a parent class method in the child class.**

Method overriding occurs when a child (subclass) provides a specific implementation of a method that is already defined in its parent (superclass).

* The method in the child class must have the same name, return type, and parameters as in the parent.
* It allows a subclass to provide a specific behavior for a method that is already defined in a more general superclass.
* It's used to achieve runtime polymorphism (especially in Java, C#, and similar languages).

Example :

class Animal:

def sound(self):

print("Animal makes a sound")

class Dog(Animal):

def sound(self):

print("Dog barks")

a = Dog()

a.sound()