Inheritance

The concept of inheritance is one of the key features of object-oriented programming.

Instead of writing the same code multiple times, you can create a parent class that contains the common attributes and methods, and then create child classes that inherit the attributes and methods of the parent class.

Inheritance is a mechanism in which one class acquires the properties and behavior of another class. Inheritance is a powerful feature of object-oriented programming that allows you to create a new class that is based on an existing class.

Exercise:

- Create the parent class called `Person` that contains the common attributes and methods of the students and teachers.
- Your `Student` class will inherit the attributes and methods of the `Person` class. You only need to define the specific attributes and methods for the `Student` class.
- Similarly, for the `Teacher` class, the class will inherit from the `Person` class. The common attributes and behaviors are **already defined.** You only need to define the specific attributes and behaviors for the `Teacher` class.
- Then create the Objects

Common Attributes and Behaviors

The students and teachers have the following attributes:

1. Name
2. Age
3. CID Number

The students and teachers have the following behaviors:

1. Walk
2. Talk
3. Eat
4. Sleep

Specific Attributes and Behaviors

Teachers:

The Teachers have the following additional attributes:

1. Subject
2. Salary
3. Department
4. Designation

The Teachers have the following additional behaviors:

1. Teach
2. Grade_students
3. Attend_meeting

Students:

The Students have the following additional attributes:

1. Student ID
2. Course
3. Year
4. GPA (Average of all your marks)

The Students have the following additional behaviors:

1. Study
2. Attend_class
3. Write_exam