# 4 PILLARS OF OOP

## Encapsulation

Encapsulation is one of the fundamental concepts in object-oriented programming (OOP). It describes the idea of wrapping data and the methods that work on data within one unit. This puts restrictions on accessing variables and methods directly and can prevent the accidental modification of data. To prevent accidental change, an object's variable can only be changed by an object's method. Those types of variables are known as
A class is an example of encapsulation as it encapsulates all the data that is member functions, variables, etc.

## Abstraction

Abstraction in python is defined as a process of handling complexity by hiding unnecessary information from the user. This is one of the core concepts of object-oriented programming (OOP) languages. That enables the user to implement even more complex logic on top of the provided abstraction without understanding or even thinking about all the hidden background/back-end complexity.

## Inheritance

Inheritance is a powerful feature in object oriented programming.
It refers to defining a new class with little or no modification to an existing class. The new class is called **derived (or child) class** and the one from which it inherits is called the **base (or parent) class**.

## Polymorphism

Polymorphism in python defines methods in the child class that have the same name as the methods in the parent class. In inheritance, the child class inherits the methods from the parent class. Also, it is possible to modify a method in a child class that it has inherited from the parent class.