Object Oriented Programming

CS253 (Software Development and Operations)

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Object Oriented Programming

- OOP : A **programming model** that organizes software design around data, or objects, instead of functions and logic.

- Object : A **knowledge field** that has unique attributes and behavior.

- Python is an object-oriented language.

Class

- Blueprint for objects – it has no values itself (abstract data type).

- Logical entity that contains some attributes(variables) and methods.

Encapsulation

Class ———→ Methods | Variable
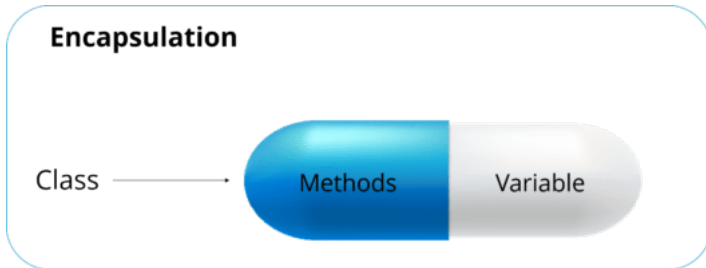
Objects

- An entity that has a state and behavior associated with it.

- self: an extra first parameter in the method definition by default.

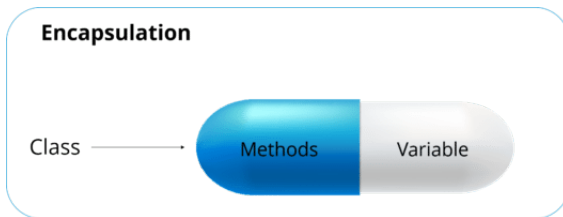- __init__: to do any initialization you want to do with your object.

Inheritance
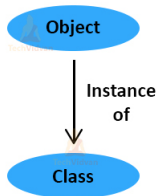
- Capability of one class to derive or inherit the properties from another class.

- Real-world relationships.

- Reusability.

Polymorphism

- Ability to represent objects of different types using a single interface.

Encapsulation

- Idea of wrapping data and the methods that work on data within one unit.

- Restrictions on accessing variables and methods directly.

- Private variables can only be changed by an object's method.

Thanks for your attention!!

Code: `https://github.com/ciniks117/CS253_TA`

References:
`https://techvidvan.com/tutorials/python-classes/`
`https://www.geeksforgeeks.org/python-oops-concepts/`
`https://docs.python.org`