

1. Operator overloading & Method overriding.

2. Static attribute, Static method & Class method decorator:

@staticmethod

Normal Method outside of the class can access via direct class without any instance.

@classmethod

will ignore “self” parameter.

3. Getter, Setter and Property, Read only : Using Property Decorator

getter without any setter is read-only attribute.

@property : convert a method into an attribute.

[By default it's a getter][Read-only]

To use setter we must have getter.

@GetterName.setter

i. read only --> you can not set the value. value can not be changed

ii. getter --> get a value of a property through a method. Most of the time, you will get the value of a private attribute.

iii. setter --> set a value of a property through a method. Most of the time, you will set the value of a private property.

4. Inner function and wrapper function.

Function can be called inside a function also, function can be sent as a parameter in another function.

5. How does decorator work : Decorator call the other nested functions without passing any parameter and multiple calls().

6. Class Composition : inheritance vs composition.

Composition :

class Engin:

```
def __init__(self):  
    pass
```

```
# car "has a" engine
class Car:
    def __init__(self) -> None:
        self.engine = Engine()
    def start(self):
        self.engine.start()
```

7. UML Diagrams : Unified Modeling Language

1. Class Diagram
2. Use Case Diagram
3. Sequence Diagram
4. Activity Diagram

8. Design Patterns: Singleton, Factory, Builder, etc

1. Creational Patterns.
2. Structural Patterns.
3. Behavioral Patterns.
4. Architectural pattern.