

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

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ROAD TO MACHINE LEARNING

اِنْ شَاءَ اللّٰهُ

"اللّٰهُ لَا يَفُضِّلُ عَلَىٰ نَافِلَةٍ شَيْءٌ يَّحْتَسِبُ"
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PHASE 1 : COURSE 2

OOP - PYTHON - CHAI AUR CODE

Class Car:

```
def __init__(self, brand, model):
```

```
    self.brand = brand
```

```
    self.model = model
```

```
def full_name(self):
```

```
    return f"{self.brand} {self.model}"
```

Class ElectricCar (Car):

```
def __init__(self, brand, model, battery_size):
```

```
    super().__init__(brand, model)
```

```
    self.battery_size = battery_size
```

- We never use `self` inside parameters.
- `super()` is used to call method from parent class.
- `f"` returns one combined string → Tesla Model S
- simple `(self.brand, self.model)` → ("Tesla", "Model S")
- **Methods** are function inside class
- `__init__` is special method in class called **Constructor**
- `--variable` to make it private.
- Polymorphism is the process of having same method for different behaviour e.g (def fuel_type)
- We can count that how many cars objects created by adding variable in Class and then `+1` inside constructor.

→ Static method start with @staticmethod before creating method.

We don't write (self) because static method can directly accessible by class.

@ → they are decorators.

→ Property decorator @property uses when we want to call method without parenthesis just like an attribute.

To control attribute access.

→ isinstance (instance, Car)

isinstance (instance, ElectricCar)

When we write this inside print it gives True or False.

→ Multiple Inheritance is when we inherit properties of two or more parent class.

Class and Instance Attributes

→ class. attr

obj. attr

If both have a attribute with same name then obj.attr > class.attr
more priority

Methods:

→ Methods are function that belongs to objects.

→ Class is a collection of two things attribute and methods.

→ When we create a function so self parameter is always inside function brackets () by default and we put it otherwise error.

Static Methods

Don't use self parameter work at class level

class Student:

@static-method

#decorator

↓

Extend behavior of function without permanent modification.

→ Four Pillars of OOPs :

- Abstraction
- Encapsulation
- Inheritance
- Polymorphism

→ del keyword used to delete properties or objects itself. (del s1.name) , (del s1)

Private attributes and methods:

- used within the class and not accessible from outside the class
- Increase security, used when information is sensitive.
- use -- two underscores before attribute name to make it private.

Inheritance:

- child class uses methods of parent class and its purpose is to make code more short and don't make method every single time.

