Class:

- Blueprint or template for creating objects.
- Defines structure and behavior for objects of that class.
- Encapsulates data (attributes) and functions (methods) operating on that data.

Object:

- Specific instance of a class.
- Real-world manifestation of the class blueprint.
- Possesses unique data (attributes) and can execute defined actions (methods).

Example:

Let’s say we have a class ‘Animal’:

Python

```python
# Define a class named Animal
class Animal:
    # Class attributes
    type = "bird"
    name = "parrot"

    # Define a method named display_info
    def display_info(self):
        print("I'm a", self.type)
        print("My name is", self.name)

# Create an instance of the Animal class
my_pet = Animal()
```

```
# Access class attributes and call the method through the object
print(my_pet.type)
my_pet.display_info()
```

In this code

1. Class Definition:

- class Animal:: This line defines a class named Animal, which acts as a blueprint for creating objects.
- type = “bird” and name = “parrot”: These are class attributes. They provide initial values that all instances of the class will have.
- def display_info(self):: This defines a method named display_info. Methods are functions defined inside a class. The self parameter refers to the instance of the class and is used to access its attributes and methods.

2. Object Instantiation:

- my_pet = Animal(): This line creates an instance of the Animal class called my_pet. This instance will have its own set of attributes, separate from any other instances of the class.

3. Accessing Attributes and Calling Methods:

- print(my_pet.type): This line prints the value of the type attribute for the my_pet instance. It will output “bird”.
- my_pet.display_info(): This line calls the display_info method on the my_pet instance. The method executes and prints “I’m a bird” and “My name is parrot”.

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