

Python

15th March, 2022

Classes

- They are features of object oriented programming (OOP).
- Allows one to create a complex code that is also reusable.
- They are defined by 'class' followed by the name.
- They are made up of functions and attributes that explain the features and behavior of the code.

Terms that is used with class

- Attribute
- Instance
- Methods

Attributes : Features of the class
Methods : How the code should behave or fn when it's called.
There can be several methods doing different things in the same class. They are defined as fns.

Instance : This refers to a specific object created from the class. It has its own unique attributes and method.

You can create multiple instances of the same class.

Handwritten annotations on a Python code snippet:

- Class method**: Points to the `__init__` method definition.
- class name**: Points to the `Car` class name.
- Magic method (fn)**: Points to the `__str__` method definition.
- Input parameter**: Points to the parameters `make, model, year` in the `__init__` method.
- Attributes of class**: Points to the class attributes `self.make`, `self.model`, and `self.year`.
- Magic method (fn)**: Points to the `__str__` method definition.
- Instance 1**: Points to the `my_car` instance creation.
- Instance 2**: Points to the `your_car` instance creation.

```
1 class Car:
2     def __init__(self, make, model, year):
3         self.make = make
4         self.model = model
5         self.year = year
6
7     def __str__(self):
8         return f"{self.make} {self.model} ({self.year})"
9
10 my_car = Car("Toyota", "Camry", 2020)
11 your_car = Car("Honda", "Civic", 2021)
12
13 print(my_car)
14 print(your_car)
```

Output:

```
✓ 0.0s Python
Toyota Camry (2020)
Honda Civic (2021)
```