constructor

Python constructor is an instance method in a class, that is automatically called whenever a new object of the class is created.

Types of constructors :

- **default constructor:** The default constructor is a simple constructor which doesn't accept any arguments. Its definition has only one argument which is a reference to the instance being constructed.
- **parameterized constructor:** constructor with parameters is known as parameterized constructor. The parameterized constructor takes its first argument as a reference to the instance being constructed known as self and the rest of the arguments are provided by the programmer.

Example of default constructor :

Python3

```
class Data:

    # default constructor
    def __init__(self):
        self.m = "Welcome"

    # a method for printing data members
    def display(self):
        print(self.m)


# creating object of the class
obj = Data()

# calling the instance method using the object obj
obj.display()
```

Example of the parameterized constructor :

Python3

```
class Addition:
    first = 0
    second = 0
    answer = 0

    # parameterized constructor
    def __init__(self, f, s):
        self.first = f
        self.second = s
```

```
    def display(self):
        print("First number = " + str(self.first))
        print("Second number = " + str(self.second))
        print("Addition of two numbers = " + str(self.answer))

    def calculate(self):
        self.answer = self.first + self.second


# creating object of the class
# this will invoke parameterized constructor
obj1 = Addition(1000, 2000)

# creating second object of same class
obj2 = Addition(10, 20)

# perform Addition on obj1
obj1.calculate()

# perform Addition on obj2
obj2.calculate()

# display result of obj1
obj1.display()

# display result of obj2
obj2.display()
```