Defining or writing class is nothing but creating user defined data type.

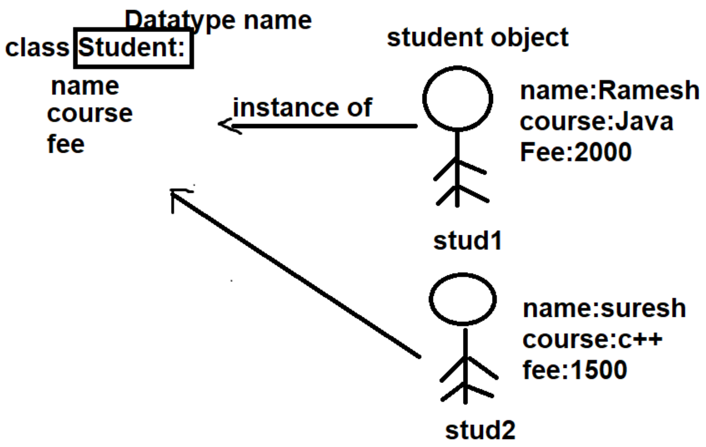
class <class-name>/<datatype-name>():
        properties (variables)
        behavior (functions/methods)

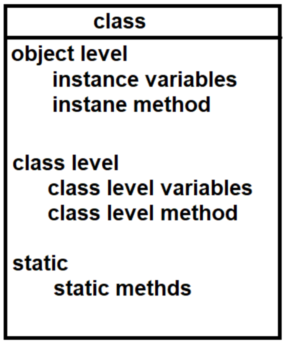
Variables defined inside class are two types

1. Instance Variables / Object Level Variables
2. Class Level Variables

Methods defined inside class are three types

1. Instance Method / Object Level Methods
2. Class Level Method
3. Static Method





class

object level
    instance variables
    instane method

class level
    class level variables
    class level method

static
    static methds

Instance Method or Object Level Method

A function defined inside class is called method.

A method defined inside class with first argument **“self”** is called instance method or object level method.
This method is bind with object name and this method cannot call without creating object.
This method defines the behavior of object or operations of object.

Syntax:

```
def <method-name>(self,arg1,arg2,arg3,..):
        statement-1
        statement-2
```

What is “self”?

“self” is an argument or parameter name.
According python any method defined inside class with first parameter or argument with name “self” is identified as object level method or instance method.
“self” is implicit parameter or argument, which hold address of object on which method performs operation.
“self” hold address or reference of current object on which method perform operations.
Whenever object level method or instance method is called, PVM send address of current object to **“self”** argument.

Example:

```
class Fan:
    def on(self): # Instance method or object level method
        print("inisde on method of Fan class")


fan1=Fan() # Creating object of class Fan
fan2=Fan() # Creating object of class Fan

fan1.on()
fan2.on()


list1=list()
list1.append(10)
```

```
list2=list()
list2.append(20)
```

Output:

```
inisde on method of Fan class
inisde on method of Fan class
```

Example:

```
class Robo:
    def walk(self): # Instance Method
        print("Robo Walk")
    def talk(self): # Instance Method
        print("Robo Talk")


robo1=Robo()
robo2=Robo()

robo1.walk()
robo2.walk()
robo1.talk()
```

Output:

```
Robo Walk
Robo Walk
Robo Talk
```

Instance method can be defined,

1. With arguments/parameters
2. Without arguments/parameters

Method with arguments/parameters receives values from caller.
Method without arguments/parameters does not receive values from caller.

Example:

```
class Robo:
    def walk(self): # Instance Method
        print("Robo Walk")
    def talk(self,msg): # Instance Method
        print(msg)


robo1=Robo()
robo2=Robo()

robo1.walk()
robo2.walk()
robo1.talk("Hello")
robo2.talk("Bye")
```

Output:

```
Robo Walk
Robo Walk
Hello
Bye
```

Instance Variables or Object Level Variables

The variables within class bind with “self” is called instance variable or object level variable.

This variable defines property of an object.