Type of Variable

- Instance Variable
- Class Variable / Static Variable

Instance Variable

Instance variables are the variables whose separate copy is created in every object.

Instance variables are defined and initialized using a constructor with self parameter.

Ex:-

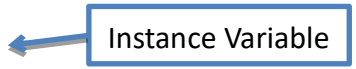
```
class Mobile:
    def __init__(self):
        self.model = 'RealMe X'
    def show_model(self):
        print(self.model)
realme = Mobile( )
```

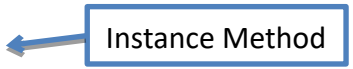
Accessing Instance Variable

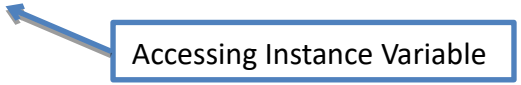
With Instance Method

To access instance variable, we need instance methods with self as first parameter then we can access instance variable using self.variable_name

```
class Mobile:
    def __init__(self):
        self.model = 'RealMe X'
    def show_model(self):
        self.model
realme = Mobile( )
```





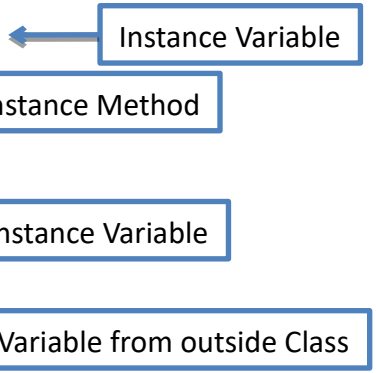


Accessing Instance Variable

Outside Class

We can access instance variable using object_name.variable_name

```
class Mobile:
    def __init__(self):
        self.model = 'RealMe X'
    def show_model(self):
        self.model

realme = Mobile( )
realme.model
```



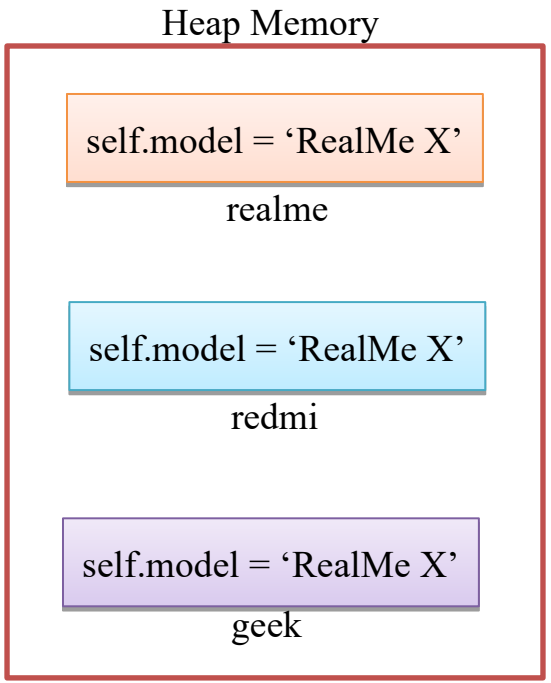
Instance Variable

Instance variables are the variables whose separate copy is created in every object.

If we modify the copy of Instance variable in an instance, it will not effect all the copies in the other instance.

```
class Mobile:
    def __init__(self):
        self.model = 'RealMe X'
    def show_model(self):
        print(self.model)
realme = Mobile( )
redmi = Mobile( )
geek = Mobile( )
```

Instance Variable



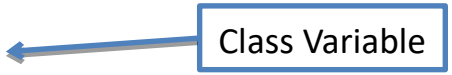
Class Variable / Static Variable

Class variables are the variables whose single copy is available to all the instance of the class.

If we modify the copy of class variable in an instance, it will effect all the copies in the other instance.

Ex:-

```
class Mobile:
    fp = 'Yes'
    def __init__(self):
        self.model = 'RealMe X'

    def show_model(self):
        print(self.model)

realme = Mobile( )
```

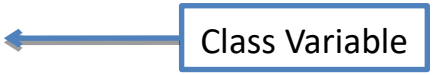


Accessing Class/Static Variable

With Class Method

To access class variable, we need class methods with cls as first parameter then we can access class variable using cls.variable_name

```
class Mobile:
    fp = 'Yes'
    def __init__(self):
        self.model = 'RealMe X'
    def show_model(self):
        print(self.model)
    @classmethod
    def is_fp(cls):
        cls.fp

realme = Mobile( )
```

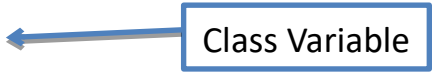


Accessing Class/Static Variable

Outside Class

We can access class variable using Classname.variable_name

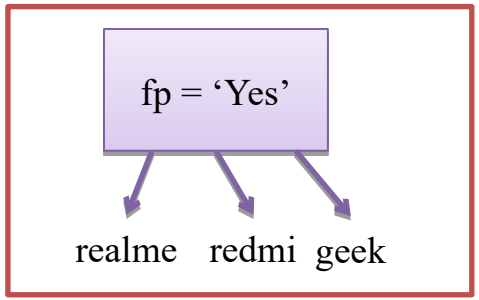
```
class Mobile:
    fp = 'Yes'

    @classmethod
    def show(cls):
        cls.fp

realme = Mobile( )

Mobile.fp
```



Class Variable / Static Variable

Class variables are the variables whose single copy is available to all the instance of the class. If we modify the copy of class variable in an instance, it will effect all the copies in the other instance.

```
class Mobile:
    fp = 'Yes'
    @classmethod
    def is_fp(cls):
        print(cls.fp)
realme = Mobile( )
redmi = Mobile( )
geek = Mobile( )
print(Mobile.fp)
```



Heap Memory