

instance variable and instance method

class Product:

instance method

def getDetails(self, productId, productName, productPrice):

self.pId = productId # Instance variable

self.pName = productName

self.pPrice = productPrice

print(self.pId, self.pName, self.pPrice, "rs") # 101 Samsung 10000 rs

p = Product()

p.getDetails(101, "Samsung", 10000)

constructor with arguments

class Product:

constructor with arguments

def __init__(self, productId, productName):

self.pId = productId # Instance variable

self.pName = productName # Instance variable

print(self.pId, self.pName)

Product(101, "Samsung") # Instance creation

Product(102, "LG") # Instance creation

Product(103, "Vivo") # Instance creation

101 Samsung

102 LG

103 Vivo

constructor with arguments, instance method

class Product:

constructor with arguments

def __init__(self, productId, productName):

self.pId = productId

self.pName = productName

instance method

def getDetails(self):

print(self.pId, self.pName) # 101 Samsung

p = Product(101, "Samsung")

p.getDetails() # calling instance method

"""Note: we cannot access instance variables directly, need object reference"""

We can modify the instance variables using object reference

When we modify the instance variables of single object, it will not reflect another objects.

In python every object maintains a separate copy of instance variable

Modify Instance Variable

```
class Product:
```

```
    def productDetails(self, productId, productName):
```

```
        self.pId = productId
```

```
        self.pName = productName
```

```
        print(self.pId , self.pName)
```

```
p = Product()
```

```
p.productDetails(101, "Samsung")
```

Modify Value

```
p.pId = 102
```

```
p.pName = "Lg"
```

```
print(p.pId, p.pName)
```

```
101 Samsung
```

```
102 Lg
```

We can access instance variables in two ways, using object ref and getattr() method

getattr() method

class Product:

def productDetails(self, productId, productName):

self.pId = productId

self.pName = productName

p = Product()

p.productDetails(101, "Samsung")

print('Product Id: ', getattr(p, 'pId'))

print('Product Name: ', getattr(p, 'pName'))

Product Id: 101

Product Name: Samsung

Adding dynamic value to instance variable

class Product:

def productDetails(**self**, productId, productName):

self.pId = productId

self.pName = productName

print(**self**.pId, **self**.pName)

p = Product()

p.productDetails(101, "Samsung")

add new instance variable

p.productCost = 10000.00

print(p.pId, p.pName, p.productCost)

101 Samsung

101 Samsung 10000.0

Syntax: `delattr(object, name)`

object: the object whose attribute we want to delete.

name: the name of the instance variable we want to delete from the object.

`delattr()` function

`class` Product:

```
def productDetails(self, productId, productName):
```

```
    self.pId = productId
```

```
    self.pName = productName
```

```
    print(self.pId, self.pName)
```

```
p = Product()
```

```
p.productDetails(101, "Samsung")
```

delete instance variable using `delattr()`

```
delattr(p.pId, 'productId') # AttributeError: 'int' object has no attribute  
'productId'
```