In [1]:
```
pwd
```

Out[1]:
```
u'C:\\Users\\Saurabh Kaushal\\Jupyter Projects\\OOPS'
```

In [10]:
```
# Creating an Empty Class
class Employee:
    pass
```

In [11]:
```
# Creating an Object of Employee Class
emp1 = Employee()
emp2 = Employee()
```

In [8]:
```
# Object-1 is created
emp1
```

Out[8]:
```
<__main__.Employee instance at 0x000000000609F108>
```

In [9]:
```
# Object-2 is created
emp2
```

Out[9]:
```
<__main__.Employee instance at 0x000000000608A548>
```

In [12]:
```
print(emp1)
```

```
<__main__.Employee instance at 0x00000000060A20C8>
```

In [14]:
```
# Assigning different Attributes to the Object
emp1.first = "Saurabh"
emp1.last = "Kaushal"
emp1.email = "saurabh@nitttrchd.ac.in"
```

In [15]:
```
emp2.first = "Aseem"
emp2.last = "Sharma"
emp2.email = "aseem.sharma@gmail.com"
```

In [16]:
```
emp1.email
```

Out[16]:
```
'saurabh@nitttrchd.ac.in'
```

In [17]:
```
emp2.last
```

Out[17]:
```
'Sharma'
```

In [18]:
```
emp2.email
```

Out[18]:
```
'aseem.sharma@gmail.com'
```

In [20]:
```
class Student:
    def __init__(self, fname, lname, roll):
        self.fname = fname
        self.lname = lname
        self.roll = roll
        self.email = fname + "." + lname + "@relearnacademy.com"
```

In [21]:
```
Std1 = Student("Ravi", "Kumar", 1234)
Std2 = Student("Shrey", "Mehra", 4321)
Std3 = Student("Harsh", "Singh", 9987)
```

In [22]:
```
Std1.email
```

Out[22]:
```
'Ravi.Kumar@relearnacademy.com'
```

In [23]:
```
Std2.fname
```

Out[23]:
```
'Shrey'
```

In [25]:
```
class Student1:
    def __init__(self, fname, lname, roll):
        self.fname = first
        self.lname = last
        self.roll = rollnum
        self.email = fname + "." + lname + "@relearnacademy.com"
```

In [26]:
```
Ravi = Student1("Sanjay", "Kumar", 123)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-26-243d314036a2> in <module>()
----> 1 Ravi = Student1("Sanjay", "Kumar", 123)

<ipython-input-25-e09992d84259> in __init__(self, fname, lname, roll)
      1 class Student1:
      2     def __init__(self, fname, lname, roll):
----> 3         self.fname = first
      4         self.lname = last
      5         self.roll = rollnum

NameError: global name 'first' is not defined
```

In [27]:
```
class Student2:
    def __init__(self, fname, lname, roll):
        self.firstname = fname
        self.lastname = lname
        self.rollnum = roll
        self.email = fname + "." + lname + "@relearnacademy.com"
```

In [28]:
```
Ravi = Student2("Sanjay", "Kumar", 123)
```

In [29]:
```
Ravi.firstname
```

Out[29]:
```
'Sanjay'
```

In [30]:
```
Ravi.rollnum
```

Out[30]:
```
123
```

In [32]:
```
print ('{}{}'.format(emp1.first, emp1.last))
```

```
SaurabhKaushal
```

In [38]:
```
class Student3:
    def __init__(self, fname, lname, roll):
        self.firstname = fname
        self.lastname = lname
        self.rollnum = roll
        self.email = fname + "." + lname + "@relearnacademy.com"

    def fullname(self):
        return '{}{}'.format(self.firstname, self.lastname)
```

In [39]:
```
obj = Student3("Sudhanshu","Sharma", 12345)
```

In [40]:
```
obj.email
```

Out[40]:
```
'Sudhanshu.Sharma@relearnacademy.com'
```

In [41]:
```
obj.fullname
```

Out[41]:
```
<bound method Student3.fullname of <__main__.Student3 instance at 0x000000000619E748>>
```

In [42]:
```
obj.fullname()
```

Out[42]:
```
'SudhanshuSharma'
```

In [50]:
```
class Relearn:
    def __init__(self, fname, lname, salary):
        self.firstname = fname
        self.lastname = lname
        self.vetan = salary
    def increment(self):
        self.vetan = self.vetan + int(self.vetan * 0.10)
```

In [51]:
```
obj1 = Relearn("Vishal", "Mahajan", 10000)
```

In [52]:
```
obj1.firstname
```

Out[52]:
```
'Vishal'
```

In [53]:
```
obj1.lastname
```

Out[53]:
```
'Mahajan'
```

In [54]:
```
obj1.vetan
```

Out[54]:
```
10000
```

In [55]:
```
obj1.increment()
```

In [56]:
```
obj1.vetan
```

Out[56]:
```
11000
```

In [ ]:
```

```

In [62]:
```
# Using Class Variable

class Nitttr:
    varidhi = 0.10
    def __init__(self,naam, gotra, dakshina):
        self.name = naam
        self.surname = gotra
        self.aamdani = dakshina
    def increment(self):
        self.aamdani = self.aamdani + int(self.aamdani * Nitttr.varidhi)
```

In [63]:
```
vayakti = Nitttr("ravi", "kumar", 20000)
```

In [64]:
```
vayakti.surname
```

Out[64]:
```
'kumar'
```

In [65]:
```
vayakti.aamdani
```

Out[65]:
```
20000
```

In [66]:
```
vayakti.increment()
```

In [67]:
```
vayakti.aamdani
```

Out[67]:
```
22000
```

In [68]:
```
vayakti.varidhi
```

Out[68]:
```
0.1
```

In [74]:
```
#INHERTIANCE

class Student5:

# To define attributes of a class use init method
    def __init__(self, name, rollnumber):
# Self is used to initilize parameters
        self.name = name
        self.rollnumber = rollnumber


# Define Various Methods/Functions of class

    def getdata(self):
        print("Accepting Data")
        self.name = input('Enter Name:')
        self.rollnumber = input('Enter Rollnumber:')

    def putdata(self):
        print('The Name is:'+self.name)
        print('Roll Number is:'+ str(self.rollnumber))

# Create another class MCA STUDENTS

class MCA_Student(Student5):

    def __init__(self,age):
        self.age = age

    def MCA(self):
        print("I'm a student of MCA. My age is" +str(self.age))
```

In [75]:
```
Aseem = MCA_Student(27)
```

In [76]:
```
Aseem.age
```

Out[76]:
```
27
```

In [77]:
```
Aseem.getdata()
```

```
Accepting Data
Enter Name:"Aseem Sharma"
Enter Rollnumber:123
```

In [78]:
```
Aseem.putdata()
```

```
The Name is:Aseem Sharma
Roll Number is:123
```

In [ ]: