Oops - Object Oriented Porgramming

- What is OOPs?
- Why OOPs?
- How is OOP is done ?
- We have a Frame for Data,
- and Data is been dumped here and we create multiple copies of Objects virtually with that frame

In [14]:
```
class car():
    #Attributes
    DOM = ""
    Model = ""
    Colour = ""
    Price = 0
    Wheels = ""

    # THis is a different method which we want to have in our python class
    def updatePrice(self, updatedPrice):
        self.Price = updatedPrice

    def showDetails(self):
        print(self.DOM)
        print(self.Model)
        print(self.Colour)
        print(self.Price)
        print(self.Wheels)

    # Whenever u define a New Object for this Class, this
    # Particular Method calls first and define the by Default
    # Values inside the COmputer Memory
    def __init__(self, DOM, Model, Colour, Price, Wheels):
        self.DOM = DOM
        self.Model = Model
        self.Colour = Colour
        self.Price = Price
        self.Wheels = Wheels
        print("We have initiated the classes Object")
```

In [15]:
```
MGHector = car("7102015","SUV","BLUE",4500000,"4+1")
```

```
We have initiated the classes Object
```

In [16]:
```
MGHector.Model
```

Out[16]:
```
'SUV'
```

In [17]:
```
MGHector.showDetails()
```

```
7102015
SUV
BLUE
4500000
4+1
```

In [18]:
```
MGHector.updatePrice(4600000)
```

In [19]:
```
MGHector.showDetails()
```

```
7102015
SUV
BLUE
4600000
4+1
```

In [20]:
```
Verna = car("152311","Sedan","BLACK",2000000,"4+1")
```

```
We have initiated the classes Object
```

In [21]:
```
Verna.showDetails()
```

```
152311
Sedan
BLACK
2000000
4+1
```

Inheritance

- What is Inheritance ?
- Why inheritance ?
- How to do Inheritance?

In [24]:
```
# Tiger
class Tiger():
    weight = 0
    age = 0
    breed = ""
    legs = 0
    gender = ""
    def __init__(self, weight,age,breed,legs,gender):
        print("Hey Tiger Object is been Created")
        self.weight = weight
        self.age = age
        self.breed = breed
        self.legs = legs
        self.gender = gender

    def speaks(self):
        print("Tiger speaks - Roar")
        print(self.age)

    def eat(self):
        print("Tiger Eats - Animals")

#Peacock
class Peacock():
    weight = 0
    age = 0
    breed = ""
    legs = 0
    gender = ""
    def __init__(self, weight,age,breed,legs,gender):
        print("Hey Peacock Object is been Created")
        self.weight = weight
        self.age = age
        self.breed = breed
        self.legs = legs
        self.gender = gender

    def speaks(self):
        print("Peacocks Sing")
        print(self.age)

    def singing(self):
        print("This Peacock sings lalalalalalalalalalala")
```

In [25]:
```
tiggy = Tiger(75,12,"Bengal Tiger", 4, "Male")
```

```
Hey Tiger Object is been Created
```

In [26]:
```
peeeaaay = Peacock(20,5,"Indian Peacock",2,"Female")
```

```
Hey Peacock Object is been Created
```

In [27]:
```
tiggy.speaks()
```

```
Tiger speaks - Roar
12
```

In [28]:
```
peeeaaay.speaks()
```

```
Peacocks Sing
5
```

In [42]:
```
#Inheritance

#Parent Class'
class animal():
    weight = 0
    age = 0
    breed = ""
    legs = 0
    gender = ""
    def __init__(self, weight,age,breed,legs,gender):
        self.weight = weight
        self.age = age
        self.breed = breed
        self.legs = legs
        self.gender = gender
    def age(self):
        print("Age- ", self.age)
```

In [31]:
```
# Define Child Class for inheriting the properties from parent class
```

In [46]:
```
class NewTiger(animal):
    def __init__(self, weight , age ,breed , legs, gender):
        print("Tiger Got Created")
        animal.__init__(self, weight,age,breed,legs,gender)
    def eat(self):
        print("Tiger Eats - Animals")
```

In [47]:
```
newTiggy = NewTiger(45,7,"Bengali Tiger",4,"male")
```

```
Tiger Got Created
```

In [48]:
```
newTiggy.eat()
```

```
Tiger Eats - Animals
```

In [52]:
```
class NewPeacock(animal):
    name = ""
    def __init__(self, weight , age ,breed , legs, gender,name):
        print("Peacock Got Created")
        self.name = name
        animal.__init__(self, weight,age,breed,legs,gender)
    def sings(self):
        print(self.name,"Peacock sings lalallallalalalalalalalal")
```

In [54]:
```
newPeeyee = NewPeacock(20,5,"indian Peacock",2,"Female","NewPeeyeee")
```

```
Peacock Got Created
```

In [55]:
```
newPeeyee.sings()
```

```
NewPeeyeee Peacock sings lalallallalalalalalalalal
```

Pass Break Continue

In [59]:
```
#When ever you hit some condition you want to break that
#Coding Block or LOOP

for item in range(1,150):
    if(item == 70):
        print("My Dad - Break and give me the car i will drive")
        break
    else:
        print("Speed of the car - ", item)
```

```
Speed of the car -  1
Speed of the car -  2
Speed of the car -  3
Speed of the car -  4
Speed of the car -  5
Speed of the car -  6
Speed of the car -  7
Speed of the car -  8
Speed of the car -  9
Speed of the car -  10
Speed of the car -  11
Speed of the car -  12
Speed of the car -  13
Speed of the car -  14
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Speed of the car -  58
Speed of the car -  59
Speed of the car -  60
Speed of the car -  61
Speed of the car -  62
Speed of the car -  63
Speed of the car -  64
```

In [60]:
```
for item in range(1,150):
    if(item == 70):
        print("MY Sister = See the Speed Dail, Slow Down")
        continue
    elif item == 100:
        print("MY Sister = Slow down or else I Will call Amaa")
        continue
    else:
        print("Speed of the car - ", item)
```

```
Speed of the car -  1
Speed of the car -  2
Speed of the car -  3
Speed of the car -  4
Speed of the car -  5
Speed of the car -  6
Speed of the car -  7
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Speed of the car -  59
Speed of the car -  60
Speed of the car -  61
Speed of the car -  62
Speed of the car -  63
Speed of the car -  64
```

In [62]:
```
# Pass

def isSomeoneWinner():
    # I dont know logic yet, But i know this function is required
```

```
  File "<ipython-input-62-b128b5c50a3b>", line 4
    # I dont know logic yet, But i know this function is required
                                                                  ^
SyntaxError: unexpected EOF while parsing
```

In [64]:
```
def isSomeoneWinner():
    # I dont know logic yet, But i know this function is required
    pass
```

In [ ]:
```

```