

EXPERIMENT - 2

CLASSES

GROUP MEMBERS NAME:

Harshal Jain - 60004190041

Junaid Girkar - 60004190057

Khushi Chavan - 60004190061

Megh Dedhia - 60004190067

AIM: Creating classes using python.

OBJECTS IN PYTHON:

Python is an object-oriented programming language. Almost everything in Python is an object, with its properties and methods.

A Class is like an object constructor or a "blueprint" for creating objects.

CODE :

```
class Student :  
    pass  
  
s1 = Student()  
s2 = Student()  
s3 = Student()
```

Class attributes

Class attributes belong to the class itself; they will be shared by all the instances. Such attributes are defined in the class body parts usually at the top, for legibility.

CODE :

```
class Student :  
    ## Class attributes  
    totalStudents = 20  
    classTeacherName = 'Komal'  
  
    ## Class Attributes belong to class  
    print(Student.__dict__)
```

OUTPUT :

```
{'__module__': '__main__', 'totalStudents': 20,  
'classTeacherName': 'Komal', '__dict__': <attribute '__dict__' of  
'Student' objects>, '__weakref__': <attribute '__weakref__' of
```

```
'Student' objects>, '__doc__': None}
```

CODE:

```
## All are referring to same class Attribute
print(Student.totalStudents)
print(s1.totalStudents)
print(s2.totalStudents)
```

OUTPUT:

```
20
20
20
```

CODE:

```
## class Attributes does not belong to particular Instance
print(s1.__dict__)
print(s2.__dict__)
```

OUTPUT:

```
{ }
{ }
```

CODE:

```
## Modifying class Attribute
Student.totalStudents = 30
```

Class method

A class method is a method that is bound to a class rather than its object. It doesn't require creation of a class instance.

CODE:

```
class Student :
    ## Class attributes
    __totalStudents = 20
    classTeacherName = 'Komal'
    ## Class Method
    @classmethod
    def getTotalStudents(cls) :
        return Student.__totalStudents
```

```
print(Student.getTotalStudents())
```

OUTPUT:

20

CONCLUSION: We learnt about Classes in python and implemented it in a python program