05 feb Assignment

1. Explain class & object with respect to object-oriented programming. Give a suitable examples.

→ classes are user-defined data types that act as the blueprint for individual objects, attributes & methods. objects are instances of a class created with specifically defined data.

2. Name the four Pillers of OOPS?

1. Abstraction
2. Encapsulation
3. Inheritance
4. Polymorphism

3. Explain why the __init__() function is used. Give a suitable example.

→ __init__ Constructors are used to initializing the object's state. the task of constructors is to initialize (assign values) to the data members of the class when an object of the class is created. also contains a collection of statement (i.e. instructions) that are executed at the time of object creation.

ex :-

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```
class person:
    def __init__(self, name):
        self.name = name
    def say_hi(self):
        print('Hello, my name is',
              self.name)
p = person('Nikhil')
p.say_hi()
```

4. Why self is used in OOPS?

The self variable is used to represent the instance of the class which is often used in object-oriented programming. It works as a reference to the object. Python uses the self parameter to refer to instance attributes & methods of the class.

5. What is inheritance? Given an example for each type of inheritance.

It defines the classes that inherit from other classes as derived, subclass, or sub-type classes. Base class remains to be the source from which a subclass inherits. for ex: you have a Base class of "Animal" & Lion is a derived class. The Inheritance will be Lion is an Animal.

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APPOINTMENT NOTES