

Q1. Explain Class and Object with respect to Object-Oriented Programming. Give a suitable example.

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In [1]: #  ans:- CLASS:-The class is a user-defined data structure that binds the data members and methods into a single unit
#           Class is a blueprint or code template for object creation. Using a class, you can create as many objects as you want.

#  OBJECT:- An object is an instance of a class. It is a collection of attributes (variables) and methods. We use the object of a class to perform e

In [2]: class person:
    def __init__(self,name,age):
        self.name=name
        self.age=age
    def person_detail(self):
        return self.name,self.age

In [3]: a=person("vivek",21)

In [4]: a.age

Out[4]: 21

In [5]: a.name

Out[5]: 'vivek'

In [6]: a.person_detail()

Out[6]: ('vivek', 21)
```

Q2. Name the four pillars of OOPs.

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In [7]: #  ANS:=The Four Pillars of OOPs is given below:-
#           Abstraction.
#           Encapsulation.
#           Inheritance.
#           Polymorphism.
```

Q3. Explain why the **init()** function is used. Give a suitable example.

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In [8]: #  ANS:- The __init__ function is called every time an object is created from a class.
#  The __init__ method lets the class initialize the object's attributes and serves no other purpose.
#  It is only used within classes

In [10]: class intro:
    def __init__(self,name,age,address,p_no,email_id):
        self.name=name
        self.age=age
        self.address=address
        self.p_no=p_no
        self.email_id=email_id

In [11]: introduction=intro("vivek kumar",21,"GZB",43245454,"vivek@gmail.com")

In [15]: introduction.name

Out[15]: 'vivek kumar'

In [16]: introduction.age

Out[16]: 21

In [17]: introduction.p_no

Out[17]: 43245454
```

Q4. Why self is used in OOPs?

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In [18]: #  ANS:-The self variable is used to represent the instance of the class which is often used in object-oriented programming
#           Python uses the self parameter to refer to instance attributes and methods of the class
```

Q5. What is inheritance? Give an example for each type of inheritance.

```
In [19]: #  ANS:--Inheritance is a mechanism in which one class acquires the property of another class.
#  For example, a child inherits the traits of his/her parents

In [ ]:
```