

Assignment



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

Ans. A Class is a user defined prototype for an object that defines a set of attributes that characterizes any object of class. Objects are an encapsulation of variables and functions into a single entity. Objects get their variables and functions from classes. Classes are essentially a template to create your objects.

Example:

```
class student_details:
```

```
    def __init__(self ,phone_number , email_id, student_id ):
```

```
        self.phone_number = phone_number
```

```
        self.email_id = email_id
```

```
        self.student_id = student_id
```

```
    def return_details(self):
```

```
        return self.phone_number, self.email_id , self.student_id
```

Q2. Name the four pillars of OOPs.

Ans. The four pillars of OOP are as follows:

- Inheritance,
- Polymorphism,
- Encapsulation, and
- Abstraction.

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

Answer. __init__() function is known as Constructor and it lets the class initialize the object's attributes.

```
def __init__(self ,price, Quantity, type ):
```

```
    self.price = price
```

```
    self.Quantity = Quantity
```

```
    self.type = type
```

Q4. Why self is used in OOPs?

Answer. *The self variable is used to represent the instance of the class, and it is used to access variables that belongs to the class.*

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

Answer: *Inheritance allows us to define a class that inherits all the methods and properties from another class. Parent class is the class being inherited from, also called base class. Child class is the class that inherits from another class, also called derived class.*