#InfyTQ OOPS Remaining Topics Notes: -

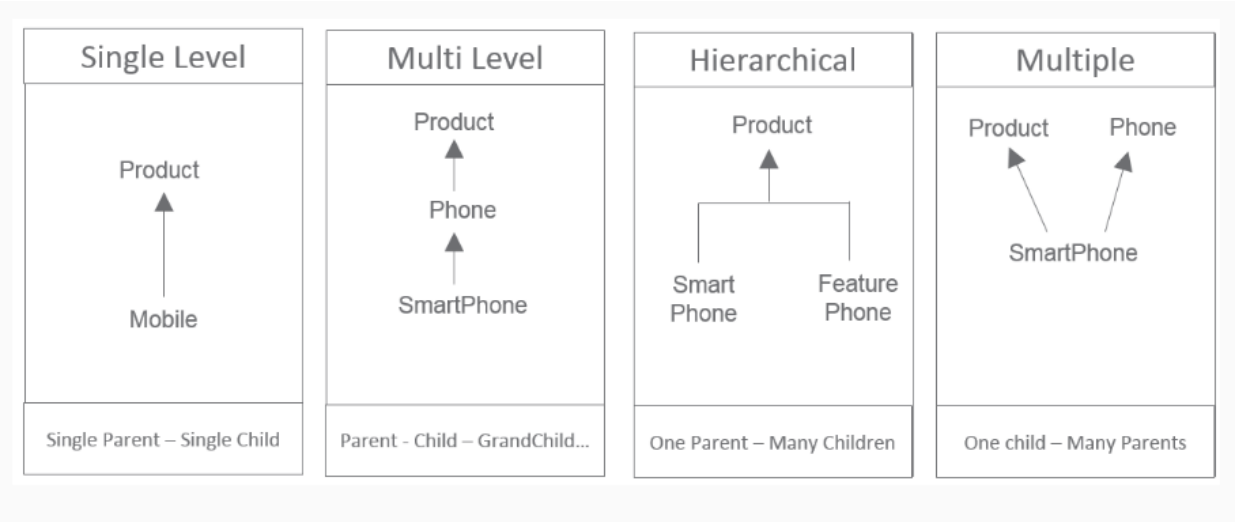
Python Super():-

The super() builtin returns a proxy object (temporary object of the superclass) that allows us to access methods of the base class.

In Python, `super()` has two major use cases:

- Allows us to avoid using the base class name explicitly
- Working with Multiple Inheritance

#Inhertiance Types:-



Single inheritance enables a derived class to inherit properties and behavior from a single parent class.

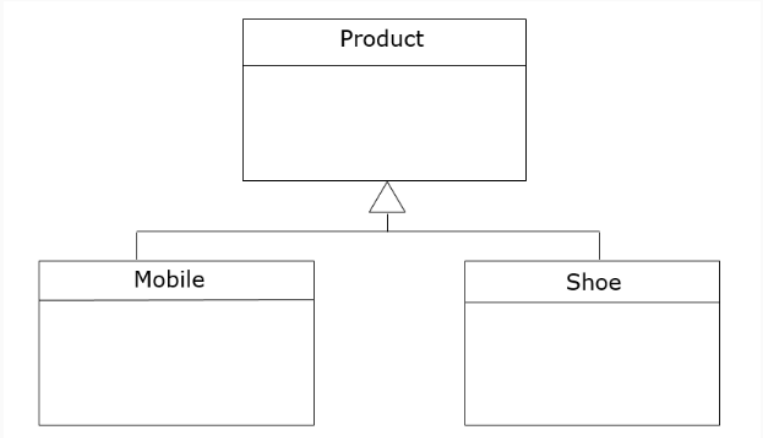
If a class is derived from another derived class then it is called **multilevel inheritance.**

When several classes are derived from common base class it is called **hierarchical inheritance.**

If a class is derived from two or more base classes then it is called **multiple inheritance.**

#Abstract Class: -

.et us assume that we have a Product class , all items being sold in our online app and extend this Product class.



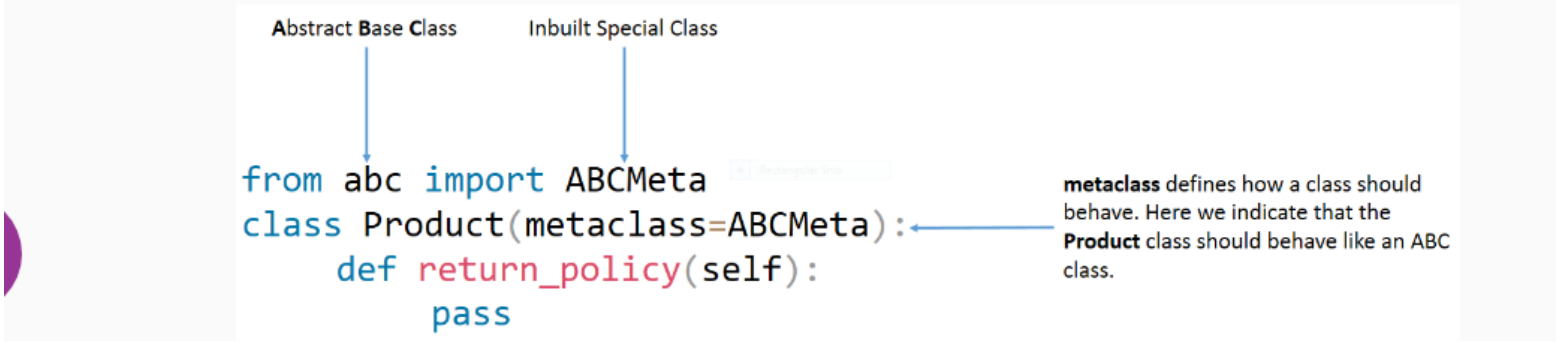
n an online shopping app, we only have specific types of products. We don't have something called a Product itself. In that sense, an object of Product class would not represent a rea
world object, because a Product is just an abstract concept. While shopping, we purchase types of products, not a product itself. Thus the best practice is not to create object of th
arent class.

Since we are the creator of the Product class, we know it is abstract in nature and we won't create an instance for it. I ensure that some other developer does not end up creating an object of such an abstract class?

. But how can another programmer know about it? How can we

We can programmatically declare a class as an abstract class. An abstract class should not be instantiated.

Note: In python, you will not get an error if you try to instantiate it. However, in languages like Java, C++, C# you will get an error if you try to instantiate an abstract class



#Abstract Method In Python:-

An Abstract method is a method which is declared but does not have implementation **such type of methods are called as abstract methods.**

In Python, we can declare an abstract method by using @abstractmethod **decorator.**

This abstract method is present in the abc module in python, and hence, while declaring the abstract method, we have to import the abc module compulsory.

Ex:-

```
from abc import abstractmethod
class Vehicle:
    @abstractmethod
    def getNoOfWheels(Self):
        pass
```

The above program does not have any implementation, and we won't get any output.