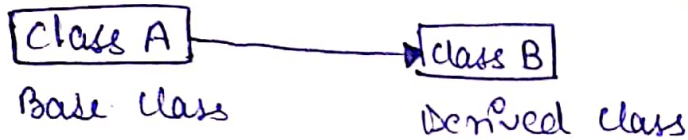Shubham Garg
9919103057
Batch: F2

1. The Various Types of Inheritance are →

(i) Single Inheritance

In this type, a class is allowed to inherit from only one class i.e. one sub class is inherited by one base class only.
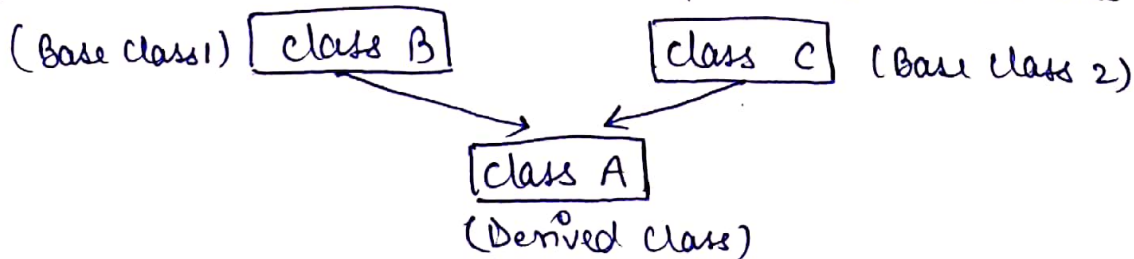
[Class A] ——————→ [Class B]
Base Class   Derived class

Syntax:

class subclass_name: access_mode base_class
{
    // body of subclass
};

(ii) Multiple Inheritance

In this type, a class can inherit from more than one classes i.e. one sub class is inherited from more than one base classes.
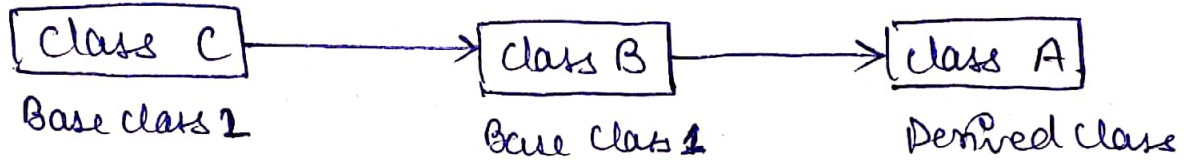
(Base class1) [Class B]   [Class C] (Base class 2)

                    [Class A]
                  (Derived class)

Syntax:

class subclass_name:
access_mode base_class1,
access_mode base_class2,
....

{
    // body of subclass
};

Note

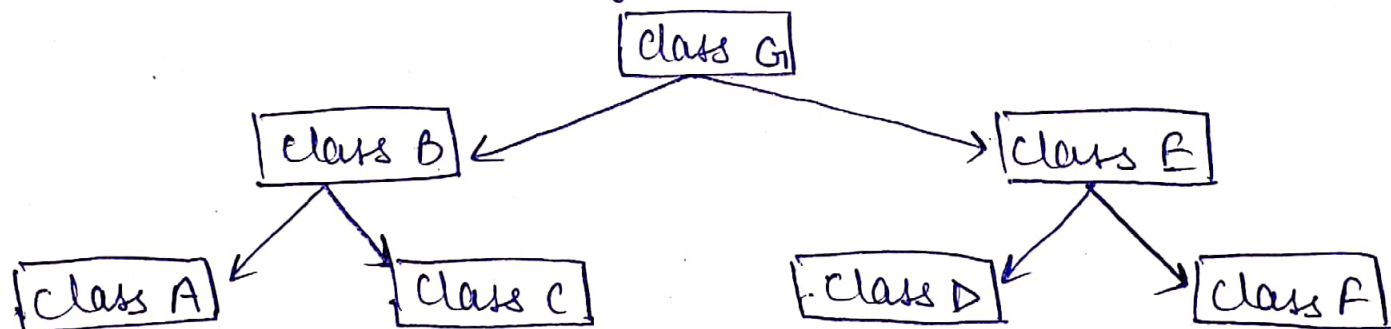Here, no. of base classes will be separated by comma (,) and access mode for every base class must be specified.

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3. **Multilevel Inheritance**

In this type, a derived class is created from another derived class.

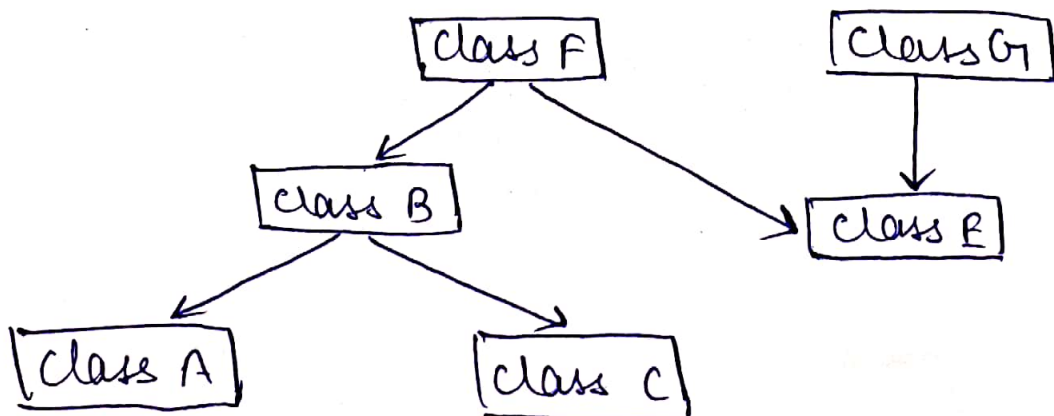| Class C	→	Class B	→	Class A
Base class 2		Base Class 1		Derived Class

4. **Hiesarchial Inheritance**

In this type, more than one sub class is inherited from a single base class i.e. more than one derived class is created from a single base class.

```
              Class G
             /        \
        Class B        Class E
        /     \        /      \
  Class A   Class C  Class D   Class F
```

5. **Hybrid (virtual) Inheritance**

It is implemented by combining more than one type of Inheritance. For example: combining Hierarchial and multiple Inheritance.

```
      Class F          Class G
      /     \              |
  Class B    \             ↓
   /    \     →        Class E
Class A  Class C
```

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Answer-2 Protected

Answer-3 41

Answer-4 No, Base Class and its object do not have any knowledge about any class derived from base class.

Answer-5 Yes, whenever we create derived class object default constructor is executed and then the derived class constructor.