

Object oriented Programming using C++

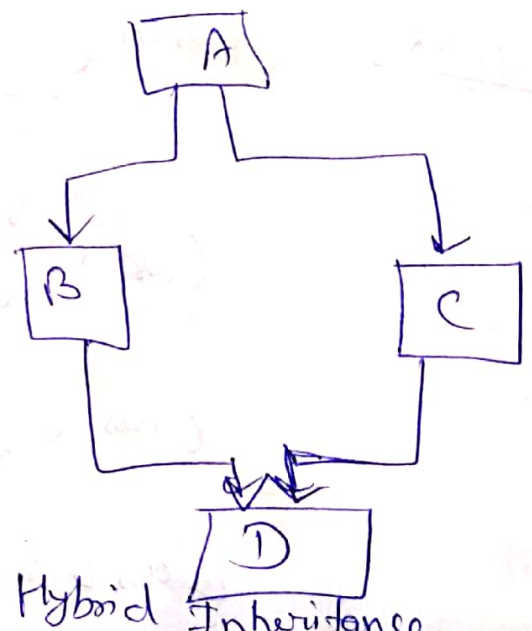
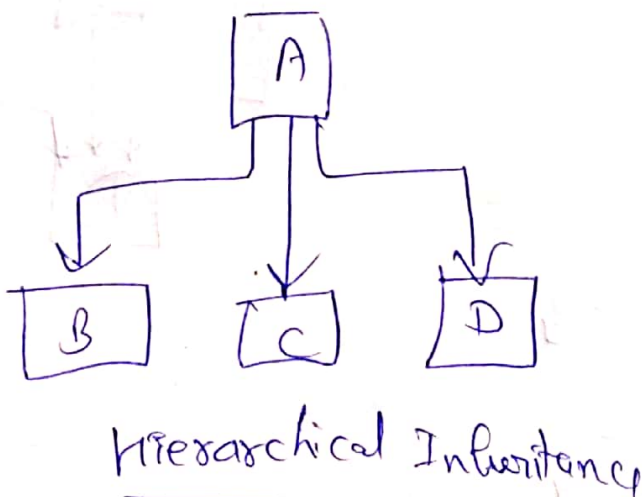
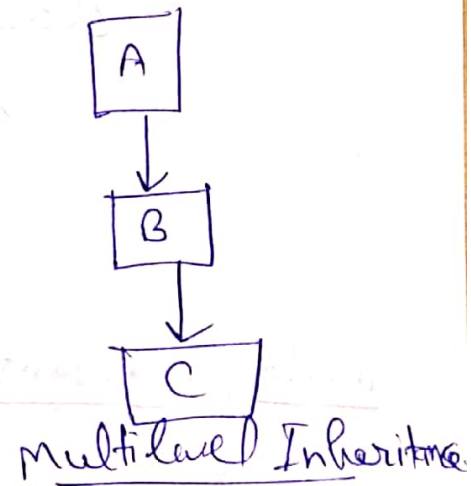
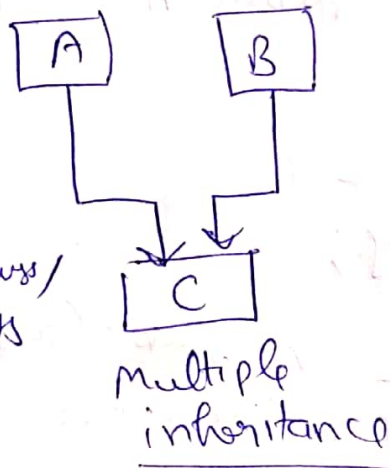
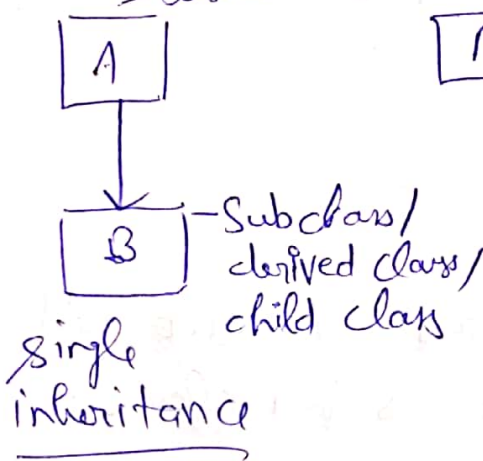
Inheritance: The mechanism of deriving a new class from an old class is called inheritance.

→ The old class is referred to as the base class and the new one is called the derived class or subclass.

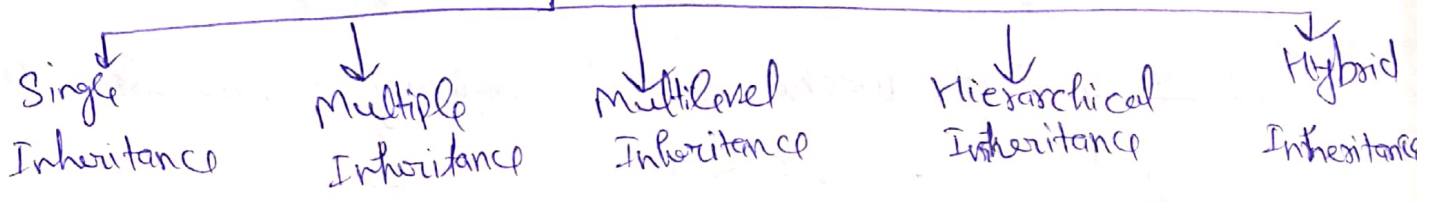
→ A class can also inherit properties from more than one class or from more than one level.

→ A derived class with only one base class is called single inheritance.

→ base class / super / parent class



Types of Inheritance.



Single Inheritance :- इसमें एक subclass का एक ही superclass होता है, subclass, superclass की Properties को inherit करता है।

Syntax -

```

class A // Base class
{
  ...
}

class B: Public A // Derived class
{
  ...
}
  
```

Multiple Inheritance - A subclass inherit the properties of more than one super class.

Syntax -

```

class A {
  ...
}

class B {
  ...
}

class C {
  ...
}

class D: Public A, Public B, Public C
{
  ...
}
  
```

Multi-level Inheritance - in multilevel inheritance a ~~base~~ class is derived from another derived class.

Syntax

```

class A
{
    ---
}
class B : public A
{
    ---
}

```



```

class C : public B
{
    ---
}

```

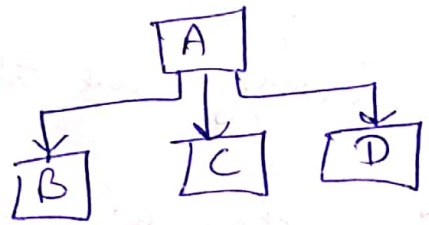
Hierarchical inheritance - इसमें एक base class से बहुत से derived class create की जाती है।

Syntax

```

class A
{
    ---
}
class B : public A
{
    ---
}
class C : public A
{
    ---
}
class D : public A
{
    ---
}

```

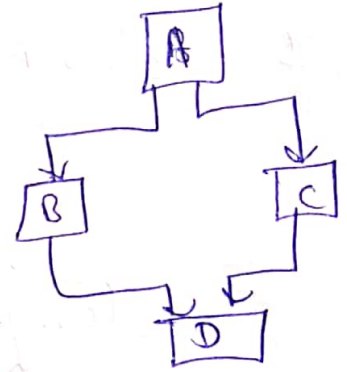


Hybrid Inheritance - इस प्रकार के Inheritance में ^{single program में} ~~दो~~ ^{एक} से ज़्यादा प्रकार के Inheritance का use होता है

Syntax -

```

class A {
    --- y;
class B: public A
    {
    --- y;
class C: public A
    &
    --- y;
class D: public B, public
    {
    --- y;
    
```



The following are three types of derivation

① class B: public A // public derivation

```

{
--- y;
    
```

② class B: private A // private "

```

{
--- y;
    
```

③ class B : A // private derivation by default

```

&
---
}
    
```