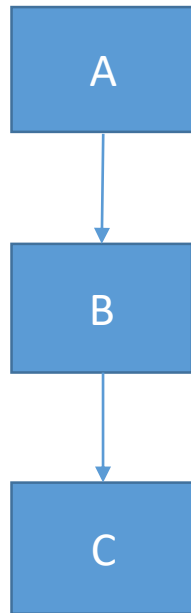


Multilevel Inheritance

- A class can be derived from another derived class.
- For example, class **A** serves as a base class for derived class **B**, which in turn serves as a base class for the derived class **C**.



- The class **B** is known as *intermediate* base class since it provides a link for the inheritance between **A** and **C**.
- The chain **ABC** is known as *inheritance path*.
- A derived class with multilevel inheritance is declared as follows:
 class A{};
 class B: public A{};
 class C: public B{};
- This process can be extended to any number of levels.

```
#include<iostream>
using namespace std;
class student
{
    protected:
        int roll_number;
    public:
        void get_number(int);
        void put_number(void);
};
void student:: get_number(int a)
{
    roll_number=a;
}
void student::put_number()
{
    cout<<"Roll number: "<<roll_number<<"\n";
}
```

```
class test: public student
{
    protected:
        float sub1;
        float sub2;

    public:
        void get_marks(float, float);
        void put_marks(void);
};

void test :: get_marks(float x, float y)
{
    sub1 = x;
    sub2 = y;
}

void test:: put_marks()
{
    cout<<"Marks in SUB1 = "<< sub1<<"\n";
    cout<<"Marks in SUB2 = "<< sub2<<"\n";
}
```

```
class result: public test
{
    float total;
    public:
        void display(void);
};

void result::display(void)
{
    total = sub1 + sub2;
    put_number();
    put_marks();
    cout<<"Total = "<<total<<"\n";
}
```

```
int main()  
{  
    result student1;  
    student1.get_number(111);  
    student1.get_marks(75.0, 59.5);  
    student1.display();  
    return 0;  
}
```

OUTPUT

Roll Number: 111

Marks in SUB1 = 75

Marks in SUB2 = 59.5

Total = 134.5