C++ Multilevel Inheritance

Multilevel inheritance is a process of deriving a class from another derived class.

C++ Multi Level Inheritance Example

When one class inherits another class which is further inherited by another class, it is known as **multi level** inheritance in C++. Inheritance is transitive so the last derived class acquires all the members of all its base classes.

Let's see the example of multi level inheritance in C++.

```
#include <iostream>
using namespace std;
 class Animal
 {
   public:
       void eat()
     {
        cout<<"Eating..."<<endl;
     }
 };
class Dog: public Animal
```

```
{
      public:
    void bark()
    {
          cout<<"Barking..."<<endl;
    }
 };
  class BabyDog: public Dog
  {
      public:
    void weep()
{
   cout<<"Weeping...";
    }
 };
int main()
 {
   BabyDog d1;
   d1.eat();
   d1.bark();
    d1.weep();
  }
```

// C++ program to implement Multilevel Inheritance

```
#include <iostream>
using namespace std;
// single base class
class A
{
public:
        int a;
        void get_A_data()
        {
                cout << "Enter value of a: ";
                cin >> a;
```

```
        }
};

// derived class from base class
class B : public A
 {
public:
        int b;
        void get_B_data()
        {
                cout << "Enter value of b: ";
                cin >> b;
        }
};
class C : public B
 {
private:
        int c;

public:
        void get_C_data()
        {
                cout << "Enter value of c: ";
                cin >> c;
        }

        // function to print sum
        void sum()
        {
                int ans = a + b + c;
                cout << "sum: " << ans;
        }
};
int main()
{
```

```
        C obj;
        obj.get_A_data();
        obj.get_B_data();
        obj.get_C_data();
        obj.sum();
}
```

// C++ program to implement Multilevel Inheritance

```
#include <iostream>
using namespace std;
 class Animal
 {
  public:
        void eat()
         {
                cout<<"Eating..."<<endl;
        }
};
 class Dog: public Animal
  {
     public:
              void bark()
           {
             cout<<"Barking..."<<endl;
           }
 };
class BabyDog: public Dog
  {
     public:
           void weep()
         {
                cout<<"Weeping...";
          }
 };
```

```
int main()
{
   BabyDog d1;
   d1.eat();
   d1.bark();
    d1.weep();
    return 0;
}
```

// C++ program to implement Multilevel Inheritance

```
#include<iostream>
using namespace std;

class Grandfather
{
        public:
                void Print1()
                {
                        cout<<"Process of Grandfather Class.\n";
                }
};
class Father: public Grandfather
{
        public:
                void Print2()
                {
                        cout<<"Process of Father Class.\n";
                }
};
class Son: public Father
{
        public:
                void Print3()
                {
```

```
                cout<<"Process of Son Class.\n";
        }
};
int main()
{
    Son obj;
    obj.Print1();
    obj.Print2();
    obj.Print3();
}
```