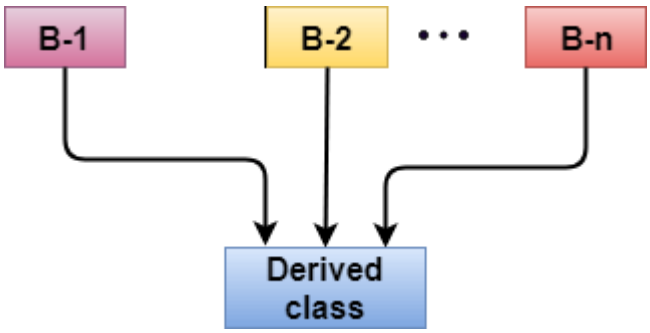
C++ Multiple Inheritance

Multiple inheritance is the process of deriving a new class that inherits the attributes from two or more classes.



//Let's see a simple example of multiple inheritance.

```
#include <iostream>
using namespace std;
class A
{
   protected:
    int a;
   public:
   void get_a(int n)
   {
      a = n;
   }
};

class B
{
   protected:
   int b;
   public:
```

```
    void get_b(int n)
    {
        b = n;
    }
};
class C : public A,public B
{
  public:
    void display()
    {
        std::cout << "The value of a is : " <<a<< std::endl;
        std::cout << "The value of b is : " <<b<< std::endl;
        cout<<"Addition of a and b is : "<<a+b;
    }
};
int main()
{
  C c;
  c.get_a(10);
  c.get_b(20);
  c.display();

    return 0;
}
```

```
#include <iostream>
using namespace std;
class Base_class_1
{
public:
void show_1()
```

```
{
cout<<" This is show function of first base class"<<endl;
}
};
class Base_class_2
{
public:
void show_2()
{
cout<<" This is show function of second base class"<<endl;
}
};
class derived_class: public Base_class_1,public Base_class_2
{
public:
void show_3()
{
cout<<" This is show function of the derived class"<< endl;
}
};
int main()
{
derived_class d;
d.show_1();
d.show_2();
d.show_3();
}

#include <iostream>
using namespace std;
class Value_1
```

```
{
	public:
		int a = 10;
		int b = 20;
};
class Value_2
{
	public:
		int c = 30;
		int d = 40;
};
class Value_3
{
	public:
		int e = 50;
		int f = 60;
		int g = 70;
};
class Value_4: public Value_1,public Value_2,public Value_3
{
	public:
		void sum()
		{
			int result;
			result= a+b+c+d+e+f+g;
			cout<<" Sum of all the values is: "<<result<< endl;
		}
};
int main()
{
	Value_4 v;
```

```
        v.sum();
}
```

```
#include <iostream>
using namespace std;
class Sum
{
public:
int a = 10;
int b = 20;
void sum()
{
cout<<" Result of sum is: "<<a+b<<endl;
}
};
class Mul
{
public:
int c = 30;
int d = 40;
void mul()
{
cout<<" Result of multiplication is: "<<c*d<<endl;
}
};
class Div
{
public:
int e = 50;
int f = 60;
void divi()
```

```
{
cout<<" Result of division is: "<< f/e<<endl;
}
};
class Mod
{
public:
int g = 70;
int h = 20;
void mod()
{
cout<<" Result of Modulo Division is: "<< g%h<<endl;
}
};
class Sub: public Sum,public Mul,public Div,public Mod
{
public:
int i = 80;
int j = 90;
void sub()
{
sum();
mul();
divi();
mod();
cout<<" Result of subtraction is: "<<i-j<< endl;
}
};
int main()
{
Sub s;
```

```
s.sub();

}
```