

## Supplement IV.A: Multiple Inheritance

### For Introduction to C++ Programming

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C++ allows you to derive a class from multiple base classes. This is known as *multiple inheritance*. Listing 1 gives an example.

Listing 1 MultipleInheritanceDemo.cpp

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

class B1
{
public:
    void p1()
    {
        cout << "from B1" << endl;
    }
};

class B2
{
public:
    void p2()
    {
        cout << "from B2" << endl;
    }
};

class A: public B1, public B2
{
};

int main()
{
    A a;
    a.p1();
    a.p2();
    return 0;
}
```

Class A derives from classes B1 and B2 (line 22). An object a of class A is created in line 24. Function p1 is inherited to A from B1 and function p2 is inherited to A from B2.

Multiple inheritance is a powerful capability to develop reusable software. But it causes ambiguity in some cases. For example, if you change the function name p2 in B2 to p1, the compiler will report an ambiguity error.