



# 程序设计实习

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# public继承的赋值兼容规则

## public继承的赋值兼容规则

```
class base {    };  
class derived : public base {    };  
base b;  
derived d;
```

- 1) 派生类的对象可以赋值给基类对象

```
b = d;
```

- 2) 派生类对象可以初始化基类引用

```
base & br = d;
```

- 3) 派生类对象的地址可以赋值给基类指针

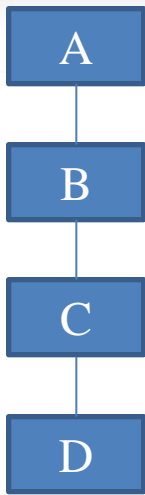
```
base * pb = & d;
```

- 如果派生方式是 private 或 protected, 则上述三条不可行。

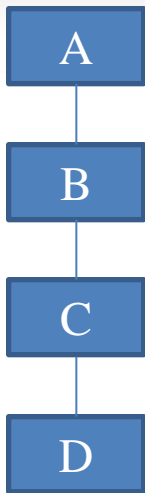
# 直接基类和间接基类

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- 类A派生类B，类B派生类C，类C派生类D， .....
  - 类A是类B的直接基类
  - 类B是类C的直接基类，类A是类C的间接基类
  - 类C是类D的直接基类，类A、B是类D的间接基类



# 直接基类与间接基类



- 在声明派生类时，**只需要**列出它的直接基类
  - 派生类沿着类的层次自动向上继承它的间接基类
  - 派生类的成员包括
    - 派生类自己定义的成员
    - 直接基类中的所有成员
    - 所有间接基类的全部成员

```
#include <iostream>
using namespace std;
class Base {
    public:
        int n;
        Base(int i):n(i) {
            cout << "Base " << n << " constructed" << endl;
        }
        ~Base() {
            cout << "Base " << n << " destructed" << endl;
        }
};
```

```
class Derived:public Base
{
    public:
        Derived(int i):Base(i) {
            cout << "Derived constructed" << endl;
        }
        ~Derived() {
            cout << "Derived destructed" << endl;
        }
};
```



```
class MoreDerived:public Derived {
public:
    MoreDerived():Derived(4) {
        cout << "More Derived constructed" << endl;
    }
    ~MoreDerived() {
        cout << "More Derived destructed" << endl;
    }
};
int main()
{
    MoreDerived Obj;
    return 0;
}
```

输出结果:

Base 4 constructed

Derived constructed

More Derived constructed

More Derived destructed

Derived destructed

Base 4 destructed