第7章 数据的抽象与封装

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Person类的定义

```
class Person
{           char   Name[9];
            char   Sex;
            int     Age;
public:

            Person( )
            {            strcpy(Name,"XXX");
                         Age = 0;
                         Sex = ' ';
            }
            ~Person( )
            {            cout<<"Now destroying Person"<<endl; }
            void Register( char *name, int age, char sex);
            void ShowMe( );
};
void  Person::Register(char *name,int age,char sex)
{           strcpy(Name,name);
            Age = age;
            Sex = sex;
}
void Person::ShowMe()
{           cout<<Name<<'\t'<<Age<<'\t'<<Sex<<endl;}
```
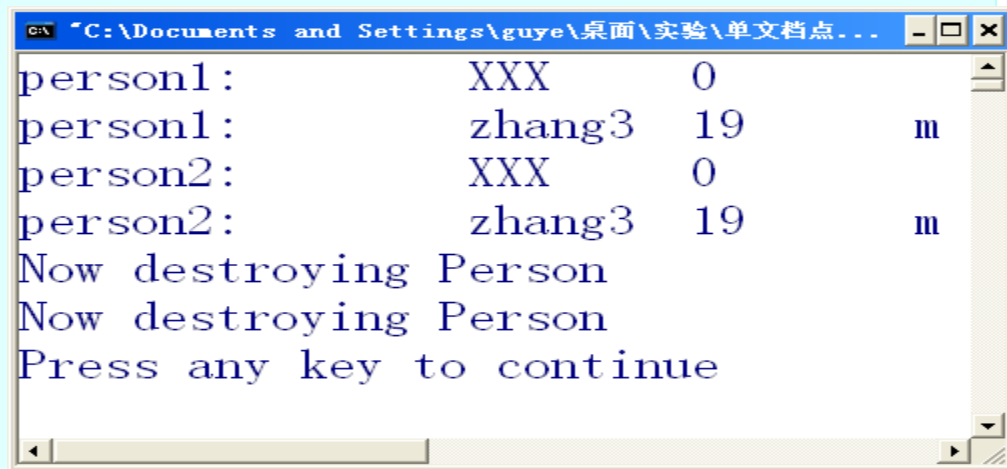
Person类测试主函数

```cpp
int main()
{

    Person person1,person2;
    cout<<"person1:\t";
    person1.ShowMe();
    person1.Register("zhang3",19,'m');
    cout<<"person1:\t";
    person1.ShowMe();
    cout<<"person2:\t";
    person2.ShowMe();
    person2=person1;
    cout<<"person2:\t";
    person2.ShowMe();
    return 0;

}
```

```
"C:\Documents and Settings\guye\桌面\实验\单文档点...

person1:          XXX          0
person1:          zhang3       19          m
person2:          XXX          0
person2:          zhang3       19          m
Now destroying Person
Now destroying Person
Press any key to continue
```

Person类较完善定义

- 前面person类的定义如何完善一些
  - 增加身份证号码，可以定长char Pid[19];
  - 增加住址，住址数据无法定长度，就是字符指针
- Person类的数据成员定义如下：

```
class Person
{    private:
        char  Name[9];
        char  Sex;
        int   Age;
        char  Pid[19];
        char  *Addr;
    public:
    ......
}
```

```cpp
class Person
{       char  Name[9];
        char  Sex;
        int   Age;
        char  Pid[19];
        char  *Addr;
public:

        Person()
        {           strcpy(Name,"xxxxxxxx");
                    Age = 0;
                    Sex = 'x';
                    strcpy(Pid,"xxxxxxxxxxxxxxxxxx");
                    Addr=NULL;
        }
        Person(char *N, int A, char S,char *P,char *Ad)
        {           strcpy(Name,N);
                    Age = A;
                    Sex = S;
                    strcpy(Pid,P);
                    int L=strlen(Ad);
                    Addr=new char[L+1];
                    strcpy(Addr,Ad);
        }
        ~Person( )
        {           cout<<"Now destroying Person"<<Name<<endl;
                    delete [ ] Addr;
        }
        void Register( char *name, int age, char sex,char *pid,char *addr);
        void ShowMe( );
};
```

Person类类外定义成员函数

```cpp
void  Person::Register(char *name,int age,char sex,char *pid,char *addr)
{       strcpy(Name,name);
        Age = age;
        Sex = sex;
        strcpy(Pid,pid);
        if(Addr!=NULL)  delete [ ] Addr;
        int L=strlen(addr);
        Addr=new char[L+1];
        strcpy(Addr,addr);
}
void Person::ShowMe()
{       cout<<Name<<" "<<Age<<" "<<Sex<<" "<<Pid<<" ";
        if(Addr!=NULL)   cout<<Addr;
        cout<<endl;

}
```

测试person类主函数

```cpp
int main()
{

    Person person1;
    Person person2("张三",19,
    Person person3;
    cout<<"person1:  ";
    person1.ShowMe();
    cout<<"person2:  ";
    person2.ShowMe();
    person3.Register("李四",2
    cout<<"person3:  ";
    person3.ShowMe();
    person2.Register("赵五",29,'w',"610103198409152127","中国新疆乌鲁木齐市王家沟12号");
    cout<<"person2:  ";
    person2.ShowMe();
    return 0;

}
```
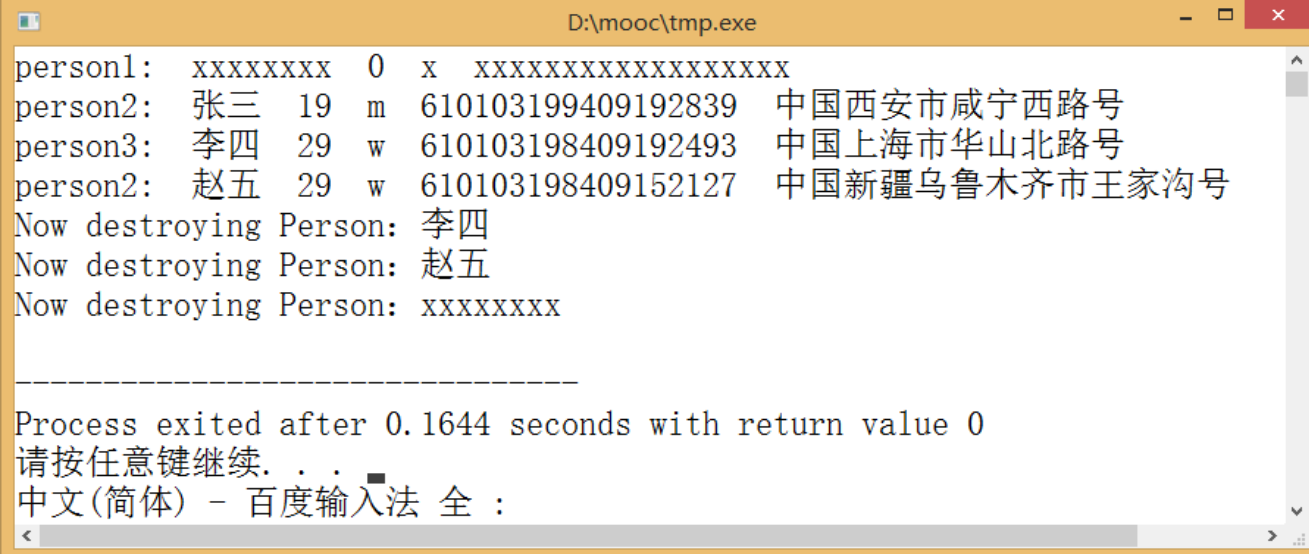
```
                                  D:\mooc\tmp.exe

person1:   xxxxxxxx   0   x   xxxxxxxxxxxxxxxxxxx
person2:   张三    19   m   610103199409192839    中国西安市咸宁西路号
person3:   李四    29   w   610103198409192493    中国上海市华山北路号
person2:   赵五    29   w   610103198409152127    中国新疆乌鲁木齐市王家沟号
Now destroying Person: 李四
Now destroying Person: 赵五
Now destroying Person: xxxxxxxx

--------------------------------

Process exited after 0.1644 seconds with return value 0
请按任意键继续. . .
中文(简体) - 百度输入法 全 :
```

感谢收看！