struct v.s. class

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问题

struct in C

```
struct Base{
        char* name;
        int age;
        }base;
typedef struct{
        char* name;
        int age;
        } Class;
```

```
//method 1
        base.name = "zhp";
        base.age = 10;
//method 2
        struct Base base1;
        base1.name = "zhp";
        base1.age = 30;
//method 3
        Class class;
        class.name = "zhp";
        class.age = 40;
```

struct in C++

```
struct Base{
    string name;
    int age;
    void setName(string name){
    this->name = name;
    }
    string getName(){
    return name;
    }
};
```

```
//method 1
    Base base;
    //base.setName("zhp");
    base.name = "zhp";
    cout « base.getName();
//method 2
    Base* base1;
    base1 = &base;
    cout «
base1->getName();
```

connection

We can't define member function in C for struct is just for complex data structure.But it's struct in C++ that helps us to do the same thing. That's to say,struct in C++ is **extension** of it in C !

difference

```
class Base{
    private:
    string name;
    public:
    void getName(){cout «
"Base";}
};
// 'struct' -> 'class'
struct Base1:Base{
    public:
    void getAge(){cout « "Age";}
};
```

```
class Derived:public Base1{
    public:
    void getSex(){
    cout « "Sex";
    }
};
    Derived derived;
    derived.getName();
```

Summary

connection

struct in C++ is extension of it in C(code compatible).

differences-1

struct in C(definition of complex data structure) and class in C++(class)

differences-2

struct and class in C++:default value(definition,inheritance),template declaration

References

Andrew Koenig&Barbara Moo

Ruminations on C++: A Decade of Programming Insight and Experience

Q&R