5.18

//编写一个学生和教师的数据输入和显示程序。学生数据有编号、姓名、性别、年龄、系别和成绩，

//教师数据有编号、姓名、性别、年龄、职称和部门。要求将编号、姓名、性别、年龄的输入和显示设计成一个类Person，并作为学生类Student和教师类Teacher的基类。

#include<iostream>

#include<string>

using namespace std;

class Person{

public:

input()

{

cout<<"请输入学生信息:"<<endl;

cout<<"编号:";

cin>>sno;

cout<<"姓名:";

cin>>name;

}

output()

{

cout<<"请输入学生信息:"<<endl<<"编号:"<<sno<<endl<<"姓名:"<<name<<endl;

}

protected:

string sno;

string name;

};

class Student:public Person{

public:

input()

{

cout<<"编号:";

cin>>sno;

cout<<"姓名:";

cin>>name;

cout<<"班号:";

cin>>banhao;

cout<<"成绩:";

cin>>score;

}

output()

{

cout<<"编号:"<<sno<<endl<<"姓名:"<<name<<endl

<<"班号:"<<banhao<<endl<<"成绩:"<<score<<endl;

}

private:

string banhao;//班号

float score;//成绩

};

class Teacher:public Person{

private:

string major;//职称

string bumeng;//部门

public:

input()

{

cout<<"请输入教师信息:"<<endl;

cout<<"编号:";

cin>>sno;

cout<<"姓名:";

cin>>name;

cout<<"职称:";

cin>>major;

cout<<"部门:";

cin>>bumeng;

}

output()

{

cout<<"编号:"<<sno<<endl<<"姓名:"<<name<<endl

<<"职称:"<<major<<endl<<"部门:"<<bumeng<<endl;

}

};

int main()

{

int num;

cout<<"请输入学生人数:";

cin>>num;

Student s1[num];

for(int i=0;i<num;i++)

{

cout<<"请输入第"<<i+1<<"位学生信息:"<<endl;

s1[i].input();

}

for(int i=0;i<num;i++)

{

cout<<"第"<<i+1<<"位学生信息:"<<endl;

s1[i].output();

}

cout<<"请输入教师人数:";

cin>>num;

Teacher t2[num];

for(int i=0;i<num;i++)

{

cout<<"请输入第"<<i+1<<"位教师信息:"<<endl;

t2[i].input();

}

for(int i=0;i<num;i++)

{

cout<<"第"<<i+1<<"位教师信息:" <<endl;

t2[i].output();

}

return 0;

}

5.19

#include<iostream>

#include<string>

using namespace std;

class base{

protected:

string name;

int age;

public:

base(string na,int ag){

name=na;

age=ag;

}

show(){

cout<<"姓名:"<<name<<endl<<"年龄:"<<age<<endl;

}

};

class leader:virtual public base{

protected:

string zhiwu;//职务

string bumeng;//部门

public:

leader(string na,int ag,string zw,string bm):base(na,ag)

{

zhiwu=zw;

bumeng=bm;

}

show(){

cout<<"姓名:"<<name<<endl<<"年龄:"<<age<<endl<<"职务:"<<zhiwu<<endl<<"部门"<<bumeng<<endl;

}

};

class engieer:virtual public base{

protected:

string zhicheng;

string zhuanye;

public:

engieer(string na,int ag,string zc,string zy):base(na,ag)

{

zhicheng=zc;

zhuanye=zy;

}

show(){

}

};

class chairman:public leader,public engieer{

public:

chairman(string na,int ag,string zw,string bm,string zc,string zy):base(na,ag),leader(na,ag,zw,bm),engieer(na,ag,zc,zy)

{

}

show(){

cout<<"姓名:"<<name<<endl<<"年龄:"<<age<<endl<<"职务:"<<zhiwu<<endl<<"部门"<<bumeng<<endl

<<"职称:" <<zhicheng<<endl<<"专业"<<zhuanye<<endl;

}

};

int main()

{

chairman c1("张元节",20,"学生","计科院","学生","计算机类");

c1.show();

return 0;

}