实验二 计131 艾力 27号

4．大学中的人员分为三类：学生，教师和职员，他们的基本信息如下：

学生：姓名、学号、语文成绩、数学成绩、总成绩（=语文成绩+数学成绩）；

教师：姓名、身份证号、基本工资、补贴、总工资（=基本工资+补贴）；

职员：姓名、工号、基本工资、工龄工资、总工资（=基本工资+工龄工资）；

现在需要管理各类人员的信息。请用面向对象的方法设计程序。

要求：

1）画出类间的关系图。

2）写出各类人员的类定义。

3）设计存储结构存储各类人员的信息，实现各类人员的增、删、总工资计算、各项信息输出；

4）以菜单进行功能选择。写出验证性的主函数。

程序代码：

#include<string>

#include<iostream>

using namespace std;

class Employe {

protected:

string Name;

int ID;

double Total\_Salary;

public:

virtual void Get\_Message();

virtual void Total() = 0;

void Show\_Message();

void Inquire();

};

void Employe::Inquire() {//查询

string name;

int id;

char choose = 0;

cout << "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n";

cout << "\*\* 1: 按姓名查询 \*\*\n";

cout << "\*\* 2: 按ID查询 \*\*\n";

cout << "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n";

cin >> choose;

switch (choose)

{

case '1': cout << "\*\* 按姓名查询 \*\*\n";

cout << "请输入要查找的姓名：";

cin >> name;

if (name == Name) { Employe::Show\_Message(); }

else cout << "该姓名不存在" << endl; break;

case '2':

cout << "\*\* 按ID查询 \*\*\n";

cout << "请输入要查找的ID：";

cin >> id;

if (id == ID) { Employe::Show\_Message(); }

else cout << "该ID不存在" << endl; break;

}

}

class Student :virtual public Employe { //学生类

protected:

float Math;

float Chinese;

public:

Student() {};

void Get\_Message();

void Total();

void Inquire();

~Student() {};

};

class Teacher :public Employe {//教师类

float Salary;

float Butie;

public:

Teacher() {};

void Get\_Message();

void Total();

//void Inquire();

~Teacher() {};

};

class Worker :virtual public Employe {//职工类

protected:

float Salary;

float Age\_Salary;

public:

Worker() {};

void Get\_Message();

void Total();

//void Inquire();

~Worker() {};

};

void Employe::Get\_Message() {

cout << "请输入姓名:";

cin >> Name;

cout << endl << "请输入编号：";

cin >> ID;

}

void Employe::Show\_Message() {

cout << "Name:" << " " << Name;

cout << " " << "ID:" << " " << ID;

cout << " " << "Total" << " " << Total\_Salary << endl;

}

void Student::Get\_Message() {

Employe::Get\_Message();

cout << endl << "请输入数学成绩：";

cin >> Math;

cout << endl << "请输入语文成绩：";

cin >> Chinese;

cout << endl;

}

void Student::Total() {

Total\_Salary = Math + Chinese;

}

void Teacher::Get\_Message() {

Employe::Get\_Message();

cout << endl << "请输入基本工资：";

cin >> Salary;

cout << endl << "请输入补贴：";

cin >> Butie;

cout << endl;

}

void Teacher::Total() {

Total\_Salary = Salary + Butie;

}

void Worker::Get\_Message() {

Employe::Get\_Message();

cout << endl << "请输入基本工资：";

cin >> Salary;

cout << endl << "请输入工龄工资：";

cin >> Age\_Salary;

cout << endl;

}

void Worker::Total() {

Total\_Salary = Salary + Age\_Salary;

}

int main() {

char yn;

int choose;

Employe\*Employe[3];

Employe[0] = new Student;

Employe[1] = new Teacher;

Employe[2] = new Worker;

while (1) {

cout << "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n";

cout << "\*\* 0: 学 生 1: 教 师 \*\*\n";

cout << "\*\* 2: 职 工 \*\*\*\*\*\*\*\*\*\*\* \*\*\n";

cout << "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n";

cout << "请输入：";

cin >> choose;

cout << endl;

Employe[choose]->Get\_Message();

Employe[choose]->Total();

Employe[choose]->Show\_Message();

Employe[choose]->Inquire();

cout << "是否继续：";

cin >> yn;

if (yn != 'Y' && yn != 'y')

break;

}

return 0;

}