Namespace

//SyMarks

#include<iostream>

using namespace std;

namespace SY{

class SYMARKS{

int Tcom;

int Telec;

int Tmaths;

public:

SYMARKS();

SYMARKS(int,int,int);

void setTcom(int);

void setTelec(int);

void setTmaths(int);

int getTcom();

int getTelec();

int getTmaths();

};

}

//header file

#include<iostream>

using namespace std;

namespace TY{

class TYmarks{

int theory;

int practical;

public:

TYmarks();

TYmarks(int,int);

void setTheory(int);

void setPractical(int);

int getTheory();

int getPractical();

};

}

#include"TYmarks.h"

TY::TYmarks::TYmarks(){

this->theory=0;

this->practical=0;

}

TY::TYmarks::TYmarks(int t,int p){

this->theory=t;

this->practical=p;

}

void TY::TYmarks::setTheory(int t){

this->theory=t;

}

void TY::TYmarks::setPractical(int p){

this->practical=p;

}

int TY::TYmarks::getTheory(){

return this->theory;

}

int TY::TYmarks::getPractical(){

return this->practical;

}

#include"SYMARKS.h"

namespace SY{

SYMARKS::SYMARKS(){

this->Tcom=0;

this->Telec=0;

this->Tmaths=0;

}

SYMARKS::SYMARKS(int c,int e,int m){

this->Tcom=c;

this->Telec=e;

this->Tmaths=m;

}

void SYMARKS::setTcom(int c){

this->Tcom=c;

}

void SYMARKS::setTelec(int e){

this->Telec=e;

}

void SYMARKS::setTmaths(int m){

this->Tmaths=m;

}

int SYMARKS::getTcom(){

return this->Tcom;

}

int SYMARKS::getTelec(){

return this->Telec;

}

int SYMARKS::getTmaths(){

return this->Tmaths;

}

}

#include"SYMARKS.h"

#include"TYmarks.h"

using namespace TY;

using namespace SY;

//has a relationship

class Student {

int rnum;

char name[20];

//SY::SYMARKS s; //as we are not defining using namespace SY;

SYMARKS s;

TYmarks t;

public:

Student();

Student(int,const char\*,SYMARKS,TYmarks);

void setRnum(int );

void setName(const char\*);

void setSYMARKs(SYMARKS);

void setTYmarks(TYmarks);

int getRnum();

char\* getName();

SYMARKS getSYMARKS();

TYmarks getTYmarks();

void Result();

void display();

};

ostream& operator<<(ostream& ,TYmarks&);

ostream& operator<<(ostream&,SYMARKS&);

#include"student.h"

Student::Student(){

this->rnum=0;

strcpy(this->name,"Student");

this->s=SYMARKS(0,0,0);

this->t=TYmarks(0,0);

}

Student::Student(int rnum,const char\* name,SYMARKS sm,TYmarks tm){

this->rnum=rnum;

strcpy(this->name,name);

this->s=sm;

this->t=tm;

}

void Student::setRnum(int r ){

this->rnum=r;

}

void Student::setName(const char \*nm){

strcpy(this->name,nm);

}

void Student::setSYMARKs(SYMARKS sm){

this->s=sm;

}

void Student::setTYmarks(TYmarks tm){

this->t=tm;

}

int Student::getRnum()

{

return this->rnum;

}

char\* Student::getName(){

return this->name;

}

SYMARKS Student::getSYMARKS(){

return this->s;

}

TYmarks Student::getTYmarks(){

return this->t;

}

void Student::Result(){

// SY::SYMARKS sy=this->getSYMARKS();

// TY::TYmarks ty=this->getTYmarks();

// int total=sy.getTcom()+ty.getPractical()+ty.getTheory();

int total=this->getSYMARKS().getTcom()+this->getTYmarks().getPractical()+this->getTYmarks().getTheory();

int avg=total/3;

if(avg>=70){

cout<<"Stdent:"<<this->name<<"\tGRADE:"<<"A";

}else{

if(avg>=60){

cout<<"Stdent:"<<this->name<<"\tGRADE:"<<"B";

}

else{

if(avg>=50){

cout<<"Stdent:"<<this->name<<"\tGRADE:"<<"C";

}else{

if(avg>=40){

cout<<"Stdent:"<<this->name<<"\tGRADE:"<<"Fails";

}

}

}

}

}

void Student::display(){

cout<<"Student roll number:"<<this->rnum<<"\n";

cout<<"Student Nane:"<<this->name<<"\n";

//cout<<"SYMARKS:\n";

// cout<<this->getSYMARKS().getTcom()<<"\n";

// cout<<this->getSYMARKS().getTelec()<<"\n";

// cout<<this->getSYMARKS().getTmaths()<<"\n";

cout<<this->s;

cout<<this->t;

}

ostream& operator<<(ostream& o,SYMARKS& s ){

o<<"SYMarks:\n";

o<<"marks of computer:"<<s.getTcom()<<"\n";

o<<"Marks of electroincs:"<<s.getTelec()<<"\n";

o<<"Marks of Maths:"<<s.getTmaths()<<"\n";

return o;

}

ostream& operator<<(ostream& o,TYmarks& t ){

o<<"TYMarks:\n";

o<<"Marks of theory:"<<t.getTheory()<<"\n";

o<<"Marks of Practical:"<<t.getPractical()<<"\n";

return o;

}

#include <iostream>

using namespace std;

#include"student.h"

/\* run this program using the console pauser or add your own getch, system("pause") or input loop \*/

using namespace SY;

using namespace TY;

int main() {

SY::SYMARKS st(70,80,98);

TYmarks t(80,70);

Student s(101,"PRachit",st,t);

cout<<s.getRnum()<<"\n";

cout<<s.getName()<<"\n";

SY::SYMARKS sy=s.getSYMARKS();

cout<<sy<<"\n";//as we are referencing it must be variable if we cout<<s.getSYMARKS() s is returning in dummy

TY::TYmarks ty=s.getTYmarks();

cout<<ty<<"\n";

s.Result();

s.display();

return 0;

}