**LẬP TRÌNH HĐT**

**1/96---------Điểm (x,y)**

#include <cstdlib>

#include <math.h>

#include <iostream>

using namespace std;

class Diem{

private:

float x, y;

public:

Diem(){

x=0;

y=0;

}

Diem(int i, int j){

x=i;

y=j;

}

void NhapDiem(){

cout<<"Nhap toa do x: ";cin>>x;

cout<<"Nhap toa do y: ";cin>>y;

}

void InDiem(){

cout<<"("<<x<<","<<y<<")";

}

int GiaTriX(){

return x;

}

int GiaTriY(){

return y;

}

float KhoangCach(Diem b){

Diem c;

c.x = b.x - x;

c.y = b.y - y;

return (sqrt(pow(c.x,2.0)+pow(c.y,2.0)));

}

};

main()

{

cout<<"Toa do diem D:" << endl;

Diem d(2,4);

d.InDiem();

Diem a;

a.NhapDiem();

a.InDiem();

cout<<"\n";

Diem b;

b.NhapDiem();

b.InDiem();

cout<<"\n";

cout<<"Khoang cach 2 diem a, b la: "<<a.KhoangCach(b);

cout<<"\n";

system("PAUSE");

}

**2/96----------Clock (giờ, phút, giây)**

#include <cstdlib>

#include <iostream>

using namespace std;

class Clock{

private:

int h, m, s;

public:

Clock(){

h = 00;

m = 00;

s = 00;

}

Clock(int h1, int m1, int s1){

h = h1;

m = m1;

s = s1;

}

void NhapGio(){

cout<<"Nhap gio: "; cin>>h;

cout<<"Nhap phut: "; cin>>m;

cout<<"Nhap giay: "; cin>>s;

}

void InGio(){

cout<<"( "<<h<<" : "<<m<<" : "<<s<<" )";

}

void LamTron(){

if(s>=35){

s=0;

m++;

}

if(m>=56){

m=0;

h++;

}

}

};

main()

{

Clock a;

a.NhapGio();

a.InGio();

cout<<"\n";

system("PAUSE");

}

**3/97-----------Date ( ngày, tháng, năm)**

#include<cstdlib>

#include<iostream>

#include<conio.h>

using namespace std;

class Date

{

private:

int Ngay,Thang,Nam;

public:

Date(){

Ngay=1;

Thang=1;

Nam=1;

}

Date(int Ngay1, int Thang1,int Nam1){

Ngay=Ngay1;

Thang=Thang1;

Nam=Nam1;

}

Date(const Date &a){

Ngay=a.Ngay;

Thang=a.Thang;

Nam=a.Nam;

}

void Nhap(){

cout<<"Nhap ngay:\t";cin>>Ngay;

cout<<"Nhap thang:\t";cin>>Thang;

cout<<"Nhap nam:\t";cin>>Nam;

}

void Xuat(){

cout<<"\t"<<Ngay<<"/"<<Thang<<"/"<<Nam;

}

//xet ngay hop le

int Hople(){

if(Ngay>31||Thang>13||Ngay<=0||Thang<=0)

return 0;

else return 1;

}

//Tinh ngay + 1

void cong(){

if(Hople()==1){

Ngay = Ngay + 1;

int k,a[4] = {4,6,9,11};

k = 1;

while(Ngay>28 && k==1){

k = 0;

for(int i=0;i<4;i++) if(Thang==a[i]){

k++;

break;

}

if(k==1){

if(Ngay>30){

Ngay = Ngay - 30;

Thang = Thang + 1;

}

else k = 0;

}

else{

if(Thang==2){

if(Nam%4==0&&Nam%100!=0||Nam%400==0){

if(Ngay>29){

Ngay = Ngay - 29;

Thang = Thang + 1;

k = 1;

}

else k = 0;

}

else{

if(Ngay>28){

Ngay = Ngay -28;

Thang = Thang + 1;

k = 1;

}

else k = 0;

}

}

else{

if(Ngay>31){

Ngay = Ngay - 31;

Thang = Thang + 1;

k = 1;

if(Thang>12){

Thang = Thang - 12;

Nam = Nam + 1;

}

}

else k = 0;

}

}

}

cout<<"\n\t1 ngay sau la ngay: ";

}

else cout<<"Khong thuc hien duoc do nhap ngay thang sai";

}

//Ngay cong 1

void Cong(int n){

if(Hople()==1){

Ngay = Ngay + n;

int k,a[4] = {4,6,9,11};

k = 1;

while(Ngay>28&&k==1){

k = 0;

for(int i=0;i<4;i++) if(Thang==a[i]){

k++;

break;

}

if(k==1){

if(Ngay>30){

Ngay = Ngay - 30;

Thang = Thang + 1;

}

else k = 0;

}

else{

if(Thang==2){

if(Nam%4==0&&Nam%100!=0||Nam%400==0){

if(Ngay>29){

Ngay = Ngay - 29;

Thang = Thang + 1;

k = 1;

}

else k = 0;

}

else{

if(Ngay>28){

Ngay = Ngay -28;

Thang = Thang + 1;

k = 1;

}

else k = 0;

}

}

else{

if(Ngay>31){

Ngay = Ngay - 31;

Thang = Thang + 1;

k = 1;

if(Thang>12){

Thang = Thang - 12;

Nam = Nam + 1;

}

}

else k = 0;

}

}

}

if(n==1)cout<<"\nNgay mai la ngay: ";

else{

if(n==2) cout<<"\nNgay kia la ngay: ";

else cout<<"\n--> "<<n<<" ngay sau la ngay: ";

}

}

else cout<<"Khong thuc hien duoc do nhap ngay thang sai ";

}

};

main()

{

Date A;

A.Nhap();

A.Xuat();

if(A.Hople()==1) cout<<"\n\tNgay thang hop le\n";

else cout<<"\n\tNgay thang khong hop le\n";

A.cong();

A.Xuat();

int n;

cout<<"\nNhap so ngay can cong:\t";cin>>n;

A.Cong(n);

A.Xuat();

getch();

}

**4/97 + 1/98---------------Phân số**

#include<cstdlib>

#include<iostream>

#include<math.h>

#include<conio.h>

using namespace std;

class PhanSo

{

private:

float tu,mau;

public:

PhanSo(){

tu=1;

mau=1;

}

PhanSo(float a,float b){

tu=a;

mau=b;

}

PhanSo(const PhanSo &a){

tu=a.tu;

mau=a.mau;

}

void Nhap();

void In();

void NghichDao();

float Giatri();

int SoSanh(PhanSo b);

PhanSo Cong(PhanSo B);

PhanSo Tru(PhanSo d);

PhanSo Nhan(PhanSo e);

PhanSo Chia(PhanSo f);

PhanSo operator + (PhanSo b);

PhanSo operator - (PhanSo b);

PhanSo operator \* (PhanSo b);

PhanSo operator / (PhanSo b);

};

//

void PhanSo::Nhap(){

do{

cout<<"\nNhap vao tu so: ";cin>>tu;

cout<<"Nhap vao mau so: ";cin>>mau;

}while(mau==0);

}

//

void PhanSo::In(){

if(tu==mau) cout<<"\n-----> Phan so la: "<<1<<endl;

else

if(tu==0&&mau!=0)cout<<"\n-----> Phan so la: "<<0<<endl;

else

if(mau==1) cout<<"\n-----> Phan so la: "<<tu<<endl;

else

if(mau==-1) cout<<"\n-----> Phan so la: "<<-1\*tu<<endl;

else

if(tu>0&&mau>0) cout<<"\n-----> Phan so la: "<<tu<<"/"<<mau<<endl;

else

if(mau<0) cout<<"\n-----> Phan so la: "<<-1\*tu<<"/"<<-1\*mau<<endl;

else cout<<"\n-----> Phan so la: "<<tu<<"/"<<mau<<endl;

}

void PhanSo::NghichDao(){

tu=tu+mau;

mau=tu-mau;

tu=tu-mau;

}

float PhanSo::Giatri(){

return tu/mau;

}

int PhanSo::SoSanh(PhanSo b){

if(Giatri()==b.Giatri()) return 0;

if(Giatri()>b.Giatri()) return 1;

if(Giatri()<b.Giatri()) return -1;

}

PhanSo PhanSo::Cong(PhanSo B){

PhanSo c;

c.mau=mau\*B.mau;

c.tu=mau\*B.tu+B.mau\*tu;

return c;

}

PhanSo PhanSo::Tru(PhanSo d){

PhanSo c;

c.mau=mau\*d.mau;

c.tu=mau\*d.tu-d.mau\*tu;

return c;

}

PhanSo PhanSo::Nhan(PhanSo e){

PhanSo c;

c.mau=mau\*e.mau;

c.tu=e.tu\*tu;

return c;

}

PhanSo PhanSo::Chia(PhanSo f){

PhanSo c;

f.NghichDao();

c.mau=mau\*f.mau;

c.tu=f.tu\*tu;

return c;

}

// qua tai toan tu +:

PhanSo PhanSo :: operator + ( PhanSo b)

{

PhanSo d;

d.mau=mau\*b.mau;

d.tu=mau\*b.tu+b.mau\*tu;

return d;

}

PhanSo PhanSo::operator - (PhanSo d){

PhanSo c;

c.mau=mau\*d.mau;

c.tu=mau\*d.tu-d.mau\*tu;

return c;

}

main()

{

PhanSo A;

A.Nhap();

A.In();

PhanSo b(3,5),f;

f= A + b;

cout<<"\n---->Phan so sau khi cong la: "<<endl;

f.In();

f= A-b;

f.In();

getch();

}

**5/98----------------Thuê bao điện thoại**

#include<iostream>

#include<cstdlib>

#include<string.h>

#include <iomanip>

#include<math.h>

#include<conio.h>

using namespace std;

class ThueBaoDT{

private:

char tel[12];

char hoten[25];

char diachi[25];

int sophut;

public:

ThueBaoDT(){

strcpy(tel,"");

tel[11] = '\0';

strcpy(hoten,"");

strcpy(diachi,"");

sophut = 0;

}

void Nhap();

void HienThi(int n);

friend char \*GetTel(ThueBaoDT \*a,int n,char \*b);

float TinhCuoc();

friend void DoiCho(ThueBaoDT &a,ThueBaoDT &b);

friend void XapXep(ThueBaoDT \*p,int k);

};

//nhap danh sach

void ThueBaoDT::Nhap(){

int i = 0,j = 0;

cout<<"\n + Nhap ho ten: ";

nhaphoten:

cin.get();

cin.getline(hoten,25);

i = 0;

while(hoten[i]!='\0'){

if(hoten[0]==' '){

cout<<" ---> Loi dau cach o dau \n + Nhap ho ten: ";

cout<<"\n + Nhap ho ten: ";

i = 0;

goto nhaphoten;

}

if(int(hoten[i])<65&&hoten[i]!=' '||int(hoten[i])>90&&int(hoten[i])<97||int(hoten[i])>122){

cout<<" ---> Loi ten chua ki tu dac biet \n + Nhap ho ten: ";

goto nhaphoten;

}

if(hoten[i]==' ')j++;

if(hoten[i+1]=='\0'&&j<2||hoten[i+1]=='\0'&&j>3){

cout<<" ---> Thieu hoac co dau cach o cuoi ho ten \n + Nhap ho ten: ";

j = 0;

goto nhaphoten;

}

i++;

}

cout<<" + Nhap dia chi: ";

cin.getline(diachi,25);

cout<<" + Nhap so dien thoai: ";

nhaplaitel:

cin.getline(tel,12);

i = 0;

while(tel[i]!='\0'){

if(tel[0]!='0'){

cout<<" ---> Loi khong co so 0 o dau \n + Nhap so dien thoai: ";

i = 0;

goto nhaplaitel;

}

if(int(tel[i])<48||int(tel[i])>57){

cout<<" ---> Loi co ki tu khong phai so";

goto nhaplaitel;

}

i++;

}

if(strlen(tel)<9||strlen(tel)>11||strlen(tel)==10) {

cout<<" ---> Loi chua du hoac thua so \n + Nhap so dien thoai: ";

cin.get();

goto nhaplaitel;

}

do{

cout<<" + Nhap so phut trong thang: ";

cin>>sophut;

if(sophut<0){

cout<<" ---> Loi so phut am\n";

}

}while(sophut<0);

}

//hien thi bang danh sach

void ThueBaoDT::HienThi(int n){

float x = TinhCuoc();

for(int i=1;i<=3;i++){

if(i%2==0){

cout<<"\n";

cout<<"\nThue bao thu: "<<n<<endl;

cout<<"---------------"<<endl;

cout<<"\n\tTen: "<<hoten<<"\n\tDia chi: "<<diachi<<"\n\tSDT: "<<tel<<"\n\tSo phut: "<<sophut<<"\n\tTien: "<<x\*1000;

}

else{

cout<<"\n\t";

}

}

cout<<"\n\t";

for(int j=1;j<=50;j++) cout<<'-';

}

//tim so dien thoai cua nguoi co ten la abc

char \*GetTel(ThueBaoDT \*a,int n,char \*b){

for(int i=0;i<n;i++){

if(strcmp(a[i].hoten,b)==0){

char \*p;

p = a[i].tel;

return p;

break;

}

}

}

//tinh cuoc

float ThueBaoDT::TinhCuoc(){

float cuoc;

return cuoc = 20 + sophut\*0.2;

}

//doi cho

void DoiCho(ThueBaoDT &a,ThueBaoDT &b){

ThueBaoDT c;

c = a;

a = b;

b = c;

}

//xap xep danh sach theo ho va ten

void XapXep(ThueBaoDT \*p,int k){

int i,j,m,n,e;

char ten[25] = " ",s[25] = " ";

double a = 0,b = 0;

for(i=0;i<k-1;i++){

strcpy(ten,p[i].hoten);

m = 0;

while(ten[m]!='\0') m = m + 1;

m = m - 1;

while(ten[m]!=' ') m = m - 1;

m = m + 1;

a = 0;

e = 0;

while(ten[m]!='\0'){

a = a + double(int(ten[m]))/pow(10,e);

e++;

m++;

}

for(j=i+1;j<k;j++){

strcpy(ten,p[j].hoten);

n = 0;

while(ten[n]!='\0') n = n + 1;

n = n - 1;

while(ten[n]!=' ') n = n - 1;

n++;

e = 0;

b = 0;

while(ten[n]!='\0'){

b = b + double(int(ten[n]))/pow(10,e);

e++;

n++;

}

if(a>b){

DoiCho(p[i],p[j]);

a = b;

}

else{

if(a==b){

strcpy(ten,p[i].hoten);

strcpy(s,p[j].hoten);

if(s[0]<ten[0]) DoiCho(p[i],p[j]);

}

}

}

}

}

//ham chinh

main(){

int n;

cout<<"\n - Nhap so nguoi thue bao dien thoai: ";

cin>>n;

ThueBaoDT a[n];

int i;

cout<<" - Nhap danh sach:\n";

for(i=0;i<n;i++){

cout<<"\n => Nguoi thu "<<i+1<<":";

a[i].Nhap();

}

cout<<"\n - Ban muon tim so dien thoai cua nguoi co ten: ";

char ten[25] = "";

cin.get();

cin.getline(ten,25);

cout<<" + So dien thoai cua nguoi do la: ";

char \*p;

p = GetTel(a,n,ten);

cout<<p<<"\n\n";

XapXep(a,n);

cout<<"\n\t\t\tDANH SACH THUE BAO \n";

for(i=0;i<n;i++) a[i].HienThi(i+1);

float tong = 0;

for(i=0;i<n;i++){

tong = tong + a[i].TinhCuoc();

}

cout<<"\n\t - Tong so tien thu duoc la: "<<tong\*1000<<" VND";

cout<<"\n\n\t\t";

getch();

}

**1/98-------------Phân số (quá hạn toán tử + - \* /)**

#include<cstdlib>

#include<iostream>

#include<conio.h>

using namespace std;

class Phanso{

private:

float tu,mau;

public:

Phanso(){

tu = 1;

mau = 1;

}

Phanso(float x, float y){

tu=x;

mau=y;

}

Phanso(Phanso const &a){

tu = a.tu;

mau = a.mau;

}

void Nhap(){

cout<<"\n\tNhap tu: "; cin>>tu;

cout<<"\tNhap mau: "; cin>>mau;

}

void In(){

cout<<tu<<"/"<<mau;

}

Phanso operator+(Phanso a){

Phanso temp;

temp.tu=a.mau\*tu+a.tu\*mau;

temp.mau=mau\*a.mau;

return temp;

}

Phanso operator-(Phanso a){

Phanso temp;

temp.tu=(a.mau\*tu)-(mau\*a.tu);

temp.mau=mau\*a.mau;

return temp;

}

Phanso operator\*(Phanso a){

Phanso temp;

temp.tu=tu\*a.tu;

temp.mau=mau\*a.mau;

return temp;

}

Phanso operator/(Phanso a){

Phanso temp;

Phanso g;

g.tu=a.mau;

g.mau=a.tu;

temp.tu=g.tu\*tu;

temp.mau=g.mau\*mau;

return temp;

}

friend ostream & operator<<(ostream &o,Phanso &b){

o<<b.tu;

o<<"/";

o<<b.mau;

return o;

}

friend istream & operator>>(istream &i, Phanso &b){

cout<<"\n\tNhap tu: ";i>>b.tu;

cout<<"\tNhap mau: ";i>>b.mau;

}

};

main()

{

cout<<"\t\t=======CAC PHEP TINH TRE NPHAN SO======\n\n";

cout<<"\n\n===========CONG HAI PHAN SO==========\n\n";

Phanso A;

cout<<"+++ Nhap phan so A: ";

A.Nhap();

cout<<"\n+++ Nhap phan so B: ";

Phanso B;

B.Nhap();

cout<<"\n\tA + B = ";

Phanso C=A+B;

C.In();

cout<<"\n\n===========NHAN HAI PHAN SO==========\n\n";

Phanso C1;

cout<<"+++ Nhap phan so C: ";

C1.Nhap();

cout<<"\n+++ Nhap phan so D: ";

Phanso D1;

D1.Nhap();

cout<<"\n\tC \* B = ";

Phanso E=C1\*D1;

E.In();

cout<<"\n\n===========TRU HAI PHAN SO==========\n\n";

Phanso E1;

cout<<"+++ Nhap phan so E: ";

E1.Nhap();

cout<<"\n+++ Nhap phan so F: ";

Phanso F1;

F1.Nhap();

cout<<"\n\tE - F = ";

Phanso G1=E1-F1;

G1.In();

cout<<"\n\n===========CHIA HAI PHAN SO==========\n\n";

Phanso G2;

cout<<"+++ Nhap phan so G: ";

cin>>G2;

cout<<"\n+++ Nhap phan so H: ";

Phanso H;

cin>>H;

cout<<"\n\tG / H = ";

Phanso K=G2/H;

cout<<K;

getch();

}

**2/99-----------Đa thức**

#include<cstdlib>

#include<iostream>

#include<conio.h>

using namespace std;

class Dathuc{

private:

double a[20];

int n;

public:

Dathuc(){

n = 3;

for(int i=0;i<n;i++){

if(i==0) a[0] = -1;

if(i==1) a[1] = -2;

if(i==2) a[2] = -3;

if(i==3) a[3] = 4;

}

}

void Nhapdathuc(){

cout<<"\n\tNhap bac cua da thuc:\t";

cin>>n;

for(int i=0;i<=n;i++){

cout<<"\tNhap cac he so cua da thuc:\t";

cin>>a[i];

}

}

void Indathuc(){

for(int i=0;i<=n;i++){

if(i==0){

if(a[i]<0){

cout<<" - "<<(-1)\*a[i]<<"x^"<<i;

(-1)\*a[i];

}

else cout<<a[i]<<"x^"<<i;

}

else

if(i<n&&a[i]>0)

cout<<" + "<<a[i]<<"x^"<<i;

else

if(i<n&&a[i]<0){

cout<<" - "<<(-1)\*a[i]<<"x^"<<i;

(-1)\*a[i];

}

else

if(i==n&&a[i]>0)

cout<<" + "<<a[i]<<"x^"<<i;

else

if(i==n&&a[i]<0)

cout<<" - "<<(-1)\*a[i]<<"x^"<<i;

(-1)\*a[i];

}

}

Dathuc operator+(Dathuc b){

Dathuc Temp;

if(n==b.n){

for(int i=0;i<=b.n;i++){

Temp.a[i] = a[i]+b.a[i];

Temp.n = i;

}

return Temp;

}

if(n>b.n){

for(int i=0;i<=n;i++){

if(i!=b.n||i==b.n){

Temp.a[i] = a[i]+b.a[i];

Temp.n = i;

}

else{

Temp.a[i] = a[i];

Temp.n = i;

}

}

return Temp;

}

else{

for(int i=0;i<=b.n;i++){

if(i<=n){

Temp.a[i] = a[i]+b.a[i];

Temp.n = i;

}

else{

Temp.a[i] = b.a[i];

Temp.n = i;

}

}

return Temp;

}

}

Dathuc operator-(Dathuc b){

Dathuc Temp;

if(n==b.n){

for(int i=0;i<=b.n;i++){

Temp.a[i] = a[i]-b.a[i];

Temp.n = i;

}

return Temp;

}

if(n>b.n){

for(int i=0;i<=n;i++){

if(i!=b.n||i==b.n){

Temp.a[i] = a[i]-b.a[i];

Temp.n = i;

}

else{

Temp.a[i] = a[i];

Temp.n = i;

}

}

return Temp;

}

else{

for(int i=0;i<=b.n;i++){

if(i<=n){

Temp.a[i] = a[i]-b.a[i];

Temp.n = i;

}

else{

Temp.a[i] = b.a[i];

Temp.n = i;

}

}

return Temp;

}

}

Dathuc operator\*(Dathuc b){

Dathuc Temp;

if(n==b.n){

for(int i=0;i<=b.n;i++){

Temp.a[i] = a[i]\*b.a[i];

Temp.n = i;

}

return Temp;

}

if(n>b.n){

for(int i=0;i<=n;i++){

if(i!=b.n||i==b.n){

Temp.a[i] = a[i]\*b.a[i];

Temp.n = i;

}

else{

Temp.a[i] = a[i];

Temp.n = i;

}

}

return Temp;

}

else{

for(int i=0;i<=b.n;i++){

if(i<=n){

Temp.a[i] = a[i]\*b.a[i];

Temp.n = i;

}

else{

Temp.a[i] = b.a[i];

Temp.n = i;

}

}

return Temp;

}

}

};

/\*

ostream & operator<<(ostream& o, Dathuc &b){

cout<<"\tDa thuc la:\t";

}

ostream &operator <<(ostream &out,const Dathuc &x)

{

cout<<"\n da thuc vua nhap : ";

for(int i=0;i<=x.n;i++)

{

out<<x.p[i]<<" ";

}

return out;

} '

\*/

main()

{

Dathuc A;

A.Nhapdathuc();

Dathuc B;

B.Nhapdathuc();

cout<<"\n\tDa thuc vua nhap A:\t";

A.Indathuc();

cout<<"\n\tDa thuc vua nhap B:\t";

B.Indathuc();

Dathuc C = A+B;

cout<<"\n\n\tDa thuc A+B = \t";

C.Indathuc();

Dathuc D = A-B;

cout<<"\n\n\tDa thuc A-B = \t";

D.Indathuc();

Dathuc E = A\*B;

cout<<"\n\n\tDa thuc A\*B = \t";

E.Indathuc();

getch();

}

**2/100------------Điểm (x, y) ------- Kế thừa**

#include<cstdlib>

#include<iostream>

#include<string.h>

using namespace std;

class Nguoi{

private:

char Hoten[50];

int Namsinh;

public:

Nguoi(){

strcpy(Hoten,"Ngo Thanh Ly");

Namsinh = 1996;

}

Nguoi(char Hoten1[40], int Namsinh1){

strcpy(Hoten,Hoten1);

Namsinh = Namsinh1;

}

void Nhapnguoi(){

cout<<"Nhap ho ten: ";

cin.ignore();

cin.getline(Hoten,50);

cout<<"Sinh nam: ";

cin>>Namsinh;

}

void Innguoi(){

cout<<"Ho ten: "<<Hoten;

cout<<"\nCo nam sinh: "<<Namsinh;

}

};

class Monhoc{

private:

char Tenmh[50];

int Sotiet;

public:

Monhoc(){

strcpy(Tenmh,"Toan");

Sotiet = 3;

}

Monhoc(char Tenmh1[40], int Sotiet1){

strcpy(Tenmh,Tenmh1);

Sotiet = Sotiet1;

}

void Nhapmh(){

cout<<"Nhap ten mon hoc: ";

cin.getline(Tenmh,40);

cout<<"So tiet: ";

cin>>Sotiet;

cin.ignore();

}

void Inmh(){

cout<<"\nTen mon hoc: "<<Tenmh;

cout<<"\nCo so tiet la: "<<Sotiet;

}

};

class Giaovien : Nguoi{

private:

char Monct[50];

Monhoc Daymon;

public:

Giaovien():Nguoi(){

strcpy(Monct,"Toan Ly Hoa");

}

void Nhapgv(){

Nhapnguoi();

cout<<"\nBo mon cong tac: ";

cin.getline(Monct,40);

cin.ignore();

Daymon.Nhapmh();

}

void Ingv(){

Innguoi();

cout<<"\nCong tac bo mon: "<<Monct;

Daymon.Inmh();

}

};

main()

{

Giaovien a[20];

int n, i;

do{

cout<<"Nhap danh sach giao vien: ";

cin>>n;

} while(n<=0||n>=20);

for(i=1;i<=n;i++){

cout<<"Nhap giao vien thu "<<i<<" :\n";

a[i].Nhapgv();

}

for(i=1;i<=n;i++){

cout<<"\nIn giao vien thu "<<i<<" :\n";

a[i].Ingv();

}

cout<<endl;

system("PAUSE");

}

**4/100-------------Số phức**

#include<cstdlib>

#include<iostream>

#include<conio.h>

using namespace std;

class Sophuc{

private:

float thuc,ao;

public:

Sophuc(){

thuc=1;

ao=1;

}

Sophuc(float t,float a){

thuc=t;

ao=a;

}

Sophuc(Sophuc const &a){

thuc = a.thuc;

ao = a.ao;

}

void Nhap(){

cout<<"\tNhap phan thuc: "; cin>>thuc;

cout<<"\tNhap phan ao: "; cin>>ao;

}

void In(){

cout<<"\t"<<thuc<<" + "<<ao<<"i";

}

Sophuc operator+(Sophuc a){

Sophuc temp;

temp.thuc = a.thuc+thuc;

temp.ao = a.ao+ao;

return temp;

}

Sophuc operator-(Sophuc a){

Sophuc temp;

temp.thuc=thuc-a.thuc;

temp.ao=ao-a.ao;

return temp;

}

Sophuc operator\*(Sophuc a){

Sophuc temp;

temp.thuc=thuc\*a.thuc + (-1)\*ao\*a.ao;

temp.ao=thuc\*a.ao + ao\*a.thuc;

return temp;

}

friend ostream & operator<<(ostream &o, Sophuc &a){

o<<a.thuc;

cout<<" + ";

o<<a.ao;

o<<"i";

}

friend ostream & operator>>(istream &i,Sophuc &a){

cout<<"\tNhap phan thuc: ";i>>a.thuc;

cout<<"\tNhap phan ao: ";i>>a.ao;

}

};

main()

{

Sophuc a;

cin>>a;

Sophuc b;

cin>>b;

cout<<" 2 so phuc vua tao la: "<<endl;

cout<<"a= "<<a<<endl;

cout<<"b= "<<b;

Sophuc c=a\*b;

cout<<"\n\tSo phuc A \* B la: ";

cout<<c;

getch();

}

**PHÂN SỐ RÚT GỌN**

#include <iostream>

#include <stdio.h>

#include <conio.h>

#include <math.h>

using namespace std;

class phanso

{

private:

int tu, mau;

public:

phanso(int a=1, int b=1){

tu=a;

mau=b;

}

void nhap(){

do{

cout<<"Nhap tu so: ";

cin>>tu;

cout<<"Nhap mau so: ";

cin>>mau;

}

while(tu<0 || mau<0);

}

void kiemtraphanso()

{

if(mau!=0)

cout<<"Phan so hop le: ";

else cout<<"Phan so khong hop le";

}

void xuat(){

cout<<"Phan so vua nhap la: "<<tu<<"/"<<mau<<"\n";

}

void xuatrutgon(){

cout<<"Phan so vua rut gon la: "<<tu<<"/"<<mau<<"\n";

}

int UCLN(int x, int y){

if(x==y){

return x;

}

else

if(x>y){

return UCLN(x-y,y);

}

else{

return UCLN(x,y-x);

}

}

int rutgon(){

int k=UCLN(tu,mau);

tu=tu/k;

mau=mau/k;

return tu;

return mau;

}

void cong(phanso a){

tu=tu\*a.mau + mau\*a.tu;

mau = mau\*a.mau;

rutgon();

cout<<"a+b= "<<tu<<"/"<<mau<<endl;

}

void tru(phanso a){

tu=tu\*a.mau - mau\*a.tu;

mau = mau\*a.mau;

rutgon();

cout<<"a-b= "<<tu<<"/"<<mau<<endl;

}

};

main(){

phanso a,b;

a.nhap();

a.kiemtraphanso();

a.xuat();

a.rutgon();

a.xuatrutgon();

b.nhap();

b.kiemtraphanso();

b.xuat();

b.rutgon();

b.xuatrutgon();

b.cong(a);

b.tru(a);

system("PAUSE");

return 0;

getch();

}