

Sửa một số bài tập

Bài 1. Lớp sinh viên

```
#include <iostream>
```

```
#include <iomanip>
```

```
using namespace std;
```

```
class Sinhvien
```

```
{
```

```
    private:
```

```
        char masv[10],ht[30];
```

```
        float dtb;
```

```
    public:
```

```
        void nhap();
```

```
        void xuat();
```

```
        float get_dtb(); //Lay ra dtb
```

```
};
```

```
void Sinhvien::nhap()
```

```
{
```

```
    cout<<"\n Nhap ma sv :";
```

```
    cin.get(masv,10);
```

```
    cin.ignore();
```

```
    cout<<"\n Nhap ho ten sv :";
```

```
    cin.get(ht,30);
```

```
    cout<<"\n Diem trung binh :";
```

```
    cin>>dtb;
```

```
    cin.ignore();
```

```
}
```

```

void Sinhvien::xuat()
{
    cout<<setw(10)<<masv
    <<setw(30)<<ht
    <<setw(5)<<dtb<<endl;
}

```

```

float Sinhvien::get_dtb()
{
    return dtb;
}

```

```

class Quanly
{
    private:
        Sinhvien sv[50];
        int n;
    public:
        void nhap_sv();
        void in_sv();
};

```

```

void Quanly::nhap_sv()
{
    cout<<"\n Nhap so sinh vien :";
    cin>>n;
    cin.ignore();
    for (int i = 0;i<n;i++)
        sv[i].nhap();
}

```

```
}
```

```
void Quanly::in_sv()
```

```
{
```

```
    //Tim Max cua dtb
```

```
    float max = sv[0].get_dtb();
```

```
    for (int i=1; i<n ; i++)
```

```
        if (max < sv[i].get_dtb())
```

```
            max = sv[i].get_dtb();
```

```
    //In sv co dtb dat max
```

```
    cout<<"\nDanh sach sinh vien co dtb cao nhat: "<<endl;
```

```
    cout<<setw(10)<<" Ma sv"
```

```
        <<setw(30)<<" Ho va ten"
```

```
        <<setw(20)<<" Diem trung binh"<<endl;
```

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

```
        if (sv[i].get_dtb() == max)
```

```
            sv[i].xuat();
```

```
}
```

```
int main()
```

```
{
```

```
    Quanly ob;
```

```
    ob.nhap_sv();
```

```
    ob.in_sv();
```

```
    return 0;
```

```
}
```

Bài 3.9 Lớp Date

```
#include <iostream>
```

```
using namespace std;
```

```
class Date
```

```
{
```

```
private:
```

```
    int D,M,Y; //ngày, tháng, năm
```

```
public:
```

```
    int nhuan(); //kiểm tra năm nhuận
```

```
    int ngaythang(); //trả về số ngày trong tháng
```

```
    void nhap(); //có kiểm tra dữ liệu
```

```
    void xuat();
```

```
    Date cong_1(); //cong 1 ngày vào đầu tháng
```

```
    Date cong_k(int k);
```

```
    int ngaynam(); //trả về số ngày của năm
```

```
    int khoảngcach(Date d2);
```

```
};
```

```
int Date::nhuan() //trả về 1 nếu Y nhuận, 0 nếu không nhuận
```

```
{
```

```
    return ((Y % 4 == 0 and Y % 100 != 0) || (Y % 400 == 0));
```

```
}
```

```
int Date::ngaythang()
```

```
{
```

```
    if (M==4 or M==6 or M==9 or M==11)
```

```

        return 30;
    else if (M==2)
        return 28 + nhuan();
    else
        return 31;
}

```

```

void Date::nhap()
{
    int S;
    int k;
    do
    {
        cout<<"\nNhap vao ngay thang nam : "<<endl;
        cin>>D>>M>>Y;

        S = ngaythang();
        if ((D > 0) and (D <= S) and (M >= 1) and (M <= 12 ) and Y > 0)
            k = 1; //hop le
        else
        {
            cout<<"\nSai ngay! Hay nhap lai. "<<endl;
            k = 0; //khong hop le
        }
    } while(k == 0);
}

```

```

void Date::xuat()

```

```

{
    cout<<D<< '/'<<M<< '/'<<Y<<endl;
}

```

Date Date::cong_1()

```

{
    int S;
    S =ngaythang();
    if (++D>S)
    {
        D = 1;
        if (++M>12)
            { M = 1;
              Y = Y + 1;
            }
    }
    return *this; //doi tuong ma this tro toi
}

```

Date Date::cong_k(int k)

```

{
    Date t;
    t.D = D;
    t.M= M;
    t.Y = Y;
    for (int i=1;i<=k;i++)
        t.cong_1();
    return t;
}

```

```
}
```

```
int Date::ngaynam()
```

```
{  
    return nhuan()?366:365;  
}
```

```
//Ham tinh khoang cach giua 2 dt ngay
```

```
int Date::khoangcach(Date d2)
```

```
{  
    Date d;  
    int s1=0,s2=0,T=0;  
    for (d.M=1,d.Y=Y; d.M<M; d.M++)  
        s1+=d.ngaythang();  
    s1 += D;  
    //cout<<"\n so ngay cua dt 1 tinh tu moc thang 1: "<<s1; //gia su d1 goi phuong thuc  
    for (s2=0;d2.M<=12;d2.M++)  
        s2+=d2.ngaythang();  
    s2 -= d2.D;  
    //cout<<"\n so ngay cua dt 2 tinh den moc cuoi thang 12 la: "<<s2;  
  
    if (d2.Y==Y) // X-----d2---d1-----X, vd d1 = 20/10/2021, d2 = 15/7/2021  
        T= s1 + s2 - ngaynam();  
    else //X-----d2---X-----X-----d1-----X  
        { //1          12          1          12  
            for (d2.Y++;d2.Y<Y;++d2.Y)  
                T+=d2.ngaynam();  
            T+=s1+s2;  
        }  
}
```

```

        return T;
    }

int main()
{
    Date d; int k;

    cout<<"\n Nhap doi tuong ob: ";
    d.nhap();
    cout<<"\n Du lieu cua doi tuong: ";
    d.xuat();
    d.cong_1();
    cout<<"\n Sau khi tang 1 ngay: ";
    d.xuat();

    Date d1, d2;

    cout<<"\n Nhap ngay thu nhat"; d1.nhap();
    cout<<"\n Nhap ngay thu hai"; d2.nhap();
    cout<<"\n Khoang cach giua d1 va d2 la: "<<d1.khoangcach(d2);

    return 0;
}

```

Bài 3.10. Lớp Phanso

```

#include<iostream>

#include<math.h>

using namespace std;

class Phanso
{

```



```

        int t,m; //tu so va mau so

public:
    friend int ucln(int a,int b);

    void nhap();

    void xuat();

    Phanso cong(Phanso p2);

    Phanso nhan(Phanso p2);

    Phanso chia(Phanso p2);

};

int ucln(int a,int b) //thuat toan Euclid
{
    a = fabs(a);
    b = fabs(b);
    while (a!=b)
    {
        if(a>b)
            a=a-b;

        else
            b=b-a;
    }
    return a;
}

void Phanso::nhap()
{
    cout<<"\nNhap tu so:";cin>>t;

    do

```

```

        {
            cout<<"\nNhap mau so:";cin>>m;
        }while(m==0);
    }
void Phanso::xuat()
{
    cout<<t<<"/"<<m<<endl;
}

```

Phanso Phanso::cong(Phanso p2)

```

{
    Phanso p;
    p.t = t*p2.m+m*p2.t;    //t/m + p2.t/p2.m
    p.m = m*p2.m;
    if (p.t !=0)
    {
        int k = p.t/ucln(p.t,p.m);
        p.m = p.m/ucln(p.t,p.m);
        p.t = k;
    }
    return p;
}

```

Phanso Phanso::nhan(Phanso p2)

```

{ Phanso tam;
    tam.t = t*p2.t;
    tam.m = m*p2.m;
    if (tam.t!=0)

```

```

    {
        int k = tam.t/ucLn(tam.t,tam.m);
        tam.m = tam.m/ucLn(tam.t,tam.m);
        tam.t = k;
    }
    return tam;
}

```

Phanso Phanso::chia(Phanso p2)

```

{Phanso tam;
    tam.t = t*p2.m;
    tam.m = m*p2.t;
    if (tam.t)
    {
        int k = tam.t/ucLn(tam.t,tam.m);
        tam.m = tam.m/ucLn(tam.t,tam.m);
        tam.t = k;
    }
    return tam;
}

```

int main()

```

{

```

Phanso p1,p2,p3;

cout<<"\nNhap phan so thu nhhat:";p1.nhap();

cout<<"\nNhap phan so thu hai:";p2.nhap();

cout<<"\nPhan so thu nhhat:";p1.xuat();

cout<<"\nPhan so thu hai:";p2.xuat();

```

p3 = p1.cong(p2);
cout<<"\nTong hai phan so p1 va p2 :";p3.xuat();
p3 = p1.nhan(p2);
cout<<"\nTich hai phan so p1 va p2 :";p3.xuat();
p3= p1.chia(p2);
cout<<"\nThuong hai phan so p1 va p2 :";p3.xuat();
return 0;
}

```

Bài 3. Lớp Time

//Bai tap 3.8 trong giao trinh

```
#include <iostream>
```

```
using namespace std;
```

```
class Time
```

```
{
```

```
private:
```

```
    int h,m,s;
```

```
public:
```

```
    //cac ham tao
```

```
    Time();
```

```
    Time(int a,int b,int c);
```

```
    //ham nhap, xuat
```

```
    void nhap();
```

```
    void xuat();
```

```
    void chuanhoa(); //chuan hoa gio, phut va giay
```

```
    void giatang(int a, int b, int c); //tang gio hien tai
```

```
    void dieuchinh(int a, int b,int c); //dieu chinh lai gio hien tai theo gio moi
```

```
};
```

```
Time::Time()
```

```
{    h=m=s=0; }
```

```
Time::Time(int a,int b,int c)
```

```
{    h=a; m=b; s = c;}
```

```
void Time::nhap()
```

```
{
```

```
    while(1)
```

```
    {
```

```
        cout << "Nhap vao gio, phut va giay: ";
```

```
        cin>>h>>m>>s;
```

```
        if (h >= 0 and m >=0 and s>=0)
```

```
            break;
```

```
        cout << "Nhap sai! Hay nhap lai." << endl;
```

```
    }
```

```
}
```

```
void Time::xuat()
```

```
{    cout<<h<<":"<<m<<":"<<s<<"\n"; }
```

```
/* cach 1
```

```
void Time::chuanhoa()
```

```
{
```

```
    if(s>=60)
```

```

        {
            m = m+s/60;

            s = s%60; //chuan hoa giay
        }

    if(m>=60)
    {
        h = h+m/60;
        m = m%60; //chuan hoa phut
    }

    if(h>=24)
        h = h%24; //chuan hoa gio
}

*/

//cach 2
void Time::chuanhoa()
{
    int tong = h*3600 + m*60 + s; //tinh ra giay
    h = (tong/3600)%24;
    m = (tong/60)%60;
    s = tong%60;
}

void Time::giatang(int a, int b, int c)
{
    h=h+a;
    m=m+b;

```

```

        s=s+c;

        chuanhoa(); //goi phuong thuc chuanhoa
    }

```

```

void Time::dieuchinh(int a, int b, int c)
{
    h = a;
    m = b;
    s = c;
    chuanhoa();
}

```

```

int main()
{
    Time ob1(25,65,75),ob2;
    cout<<"\n Doi tuong ob1: ";
    ob1.xuat();
    cout<<"\n Sau khi chuan hoa ob1: ";
    ob1.chuanhoa();//2:6:15
    ob1.xuat();

    cout<<"\n Gia tang ob1: ";
    ob1.giatang(20, 50, 70);
    cout<<"\n ob1 sau khi gia tang: ";
    ob1.xuat(); //22:57:25

    cout<<"\n Dieu chinh ob1: ";
    ob1.dieuchinh(15, 70, 90);
    cout<<"\n ob1 sau khi dieu chinh: ";
}

```

```

ob1.xuat(); //16:11:30

cout<<"\n Nhap doi tuong ob2: \n ";
ob2.nhap();
cout<<"\n Doi tuong ob2: \n";
ob2.xuat();
cout<<"\n Sau khi chuan hoa ob2: ";
ob2.chuanhoa();
ob2.xuat();

return 0;
}

```

Bài tập 3.13. Lớp Đa thức

```

#include <iostream>
#include <stdlib.h>
using namespace std;
class dathuc
{
    int heso[100]; //luu cac he so cua da thuc
    int bac;        //bac cua da thuc
public:
    void nhap();
    void xuat();
    dathuc cong(dathuc p);
};

void dathuc::nhap()
{

```


//vd : $2x^0 + 3x + 5x^2 + 4x^3$

cout<<"Nhap vao bac cua da thuc: ";

cin>>bac;

cout<<"Nhap vao cac he so cua da thuc: ";

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

{

cout<<"He so bac "<<i<<" la: ";

cin>>heso[i];

}

}

void dathuc::xuat() //in ra chua dat yeu cau ! hay sua lai

{

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

if (heso[i] !=0)

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

cout<<"\n\n";

}

dathuc dathuc::cong(dathuc p)

{ dathuc c; //c la da thuc ket qua

int i;

//vd: da thuc hien tai: $2 + 3x + 5x^2 + 4x^3$

//vd: da thuc 2 (da thuc p): $3 + 2x + 6x^2 + 9x^3 + 3x^4 + 2x^5$

//vd: da thuc tong $5 + 5x + 11x^2 + 13x^3 + 3x^4 + 2x^5$

if (bac < p.bac) //bac =3, p.bac = 5

```

{
    c.bac = p.bac;

    for (i=0; i<=bac;i++)
        c.heso[i] = heso[i] + p.heso[i];

    for (i=bac+1; i<=p.bac;i++)
        c.heso[i] = p.heso[i];
}

//vd: da thuc hien tai:       $5 + 3x + 6x^2 + 9x^3 + 3x^4 + 2x^5$ 
//vd: da thuc p:             $4 + 2x + 5x^2 + 4x^3$ 
//vd: da thuc tong           $9 + 5x + 11x^2 + 13x^3 + 3x^4 + 2x^5$ 

else //bac = 5, p.bac =3
{
    c.bac = bac;

    for (i=0; i<=p.bac;i++)
        c.heso[i] = heso[i] + p.heso[i];

    for (i=p.bac+1; i<=bac;i++)
        c.heso[i]=heso[i];
}

return c;
}

int main()
{
    dathuc ob1,ob2,ob3;
    ob1.nhap();

```

```

ob2.nhap();

cout<<"\n Da thuc thu nhât : "; ob1.xuat();cout<<endl;

cout<<"\n Da thuc thu hai : ";ob2.xuat();cout<<endl;


ob3=ob1.cong(ob2);

cout<<"\n Da thuc tong : ";

ob3.xuat();cout<<endl;


return 0;

}

```

Bài tập 3.11 Lớp Chuỗi

```

#include <string.h>

#include <iostream>

#include <stdio.h>

using namespace std;


class Chuoi
{
    char str[100]; //cach khai bao chuoi cua ngon ngu C
    int n;          //kich thuoc chuoi
public:
    Chuoi();
    Chuoi(char st[]);
    void nhap();
    void hienthi();
    char phantu(int i); //tra ve ky tu thu i cua chuoi
    Chuoi noi(Chuoi ob2); //ket noi 2 chuoi
};

```

```
Chuoi::Chuoi() //ham tao mac dinh
```

```
{}
```

```
Chuoi::Chuoi(char st[]) //ham tao khoi gan chuoi
```

```
{
```

```
    strcpy(str,st); //loi khi go str = st
```

```
}
```

```
void Chuoi::nhap()
```

```
{
```

```
    cout<<"\n Nhap chuoi:";
```

```
    gets(str);
```

```
    n = strlen(str);
```

```
}
```

```
void Chuoi::hienthi()
```

```
{
```

```
    cout<<str<<endl;
```

```
}
```

```
char Chuoi::phantu(int i)
```

```
{
```

```
    if (i<0 || i >= n)
```

```
        return -1;
```

```
        return str[i];
```

```
}
```

```
Chuoi Chuoi::noi(Chuoi ob2)
```

```
{
```

```

        Chuoi ob; //loi khi go ob = str + ob2.str;

        strcpy(ob.str,str);

        strcat(ob.str,ob2.str); //noi xong 2 chuoi

        ob.n = strlen(ob.str);

        return ob;

    }

```

```

int main()
{
    Chuoi ob1("Khoa"),ob2("CNTT"),ob3;

    ob3 = ob1.noi(ob2);


    cout<<"\n ob1 = ";ob1.hienthi();
    cout<<"\n ob2 = ";ob2.hienthi();
    cout<<"\n ob3 = ";ob3.hienthi();
    cout<<"\nPhan tu thu 5 cua ob3 la: "<<ob3.phantu(4);


    ob1.nhap();
    ob2.nhap();

    ob3= ob1.noi(ob2);

    cout<<"\n ob1 = ";ob1.hienthi();
    cout<<"\n ob2 = ";ob2.hienthi();
    cout<<"\n ob3 = ";ob3.hienthi();
    cout<<"\nPhan tu thu 5 cua ob3 la: "<<ob3.phantu(4);

    return 0;

}

```

Bài tập 3.15 Lớp Mảng

```

#include<iostream>

#include <stdlib.h>

using namespace std;

class Mang
{
    int *a; //dung mang cap phat dong

    int n; //kich thuoc mang

public:
    void nhap();

    void xuat();

    Mang cong(Mang m2);

};

void Mang::nhap()
{
    cout<<"\n Nhap n (n>0) ";cin>>n;

    a = new int [n];

    if (a == NULL)
    {
        cout<<"\n Loi cap phat bo nho!";

        return;
    }

    for(int i = 0;i < n;i++)
    { cout<<"\n a["<<i<<"]=";

        cin>>a[i];

        }

    }

```

```
void Mang::xuat()
```

```
{  
    for(int i=0;i<n;i++)  
        cout<<a[i]<<" ";  
}
```

```
Mang Mang::cong(Mang m2)
```

```
{  
    Mang m;  
    //hai doi tuong cong duoc phai cung kich thuoc  
    if (n != m2.n) //kiem tra kich thuoc  
    { cout<<"\n 2 mang khong cung kich thuoc";  
      exit(1);  
    }  
    m.a = new int [n];  
    if (m.a == NULL)  
    {  
        cout<<"\n Loi cap phat bo nho!";  
        exit(1);  
    }  
    for(int i = 0;i<n;i++)  
        m.a[i] = a[i] + m2.a[i];  
    m.n = n; //gan kich thuoc cua mang m la n  
    return m;  
}
```

```

int main()
{
    Mang m1,m2,m3;

    cout<<"\n\nNhap mang thu nhât:";m1.nhap();

    cout<<"\n Mang thu nhât: ";    m1.xuat();


    cout<<"\n\nNhap mang thu hai:";m2.nhap();

    cout<<"\n Mang thu hai: ";    m2.xuat();


    m3 = m1.cong(m2);

    cout<<"\n\nTong hai mang :";

    m3.xuat();


    return 0;
}

```

Bài tập 3.16 Lớp Điểm

```

#include <iostream>

#include <math.h>

#define n 5 //KÍCH THUOC n LA 5

using namespace std;

class Khonggian //moi doi tuong se co dung n thanh phan
{

    private: int  a[n]; //cac thanh phan cua doi tuong diem

    public:

        void nhap();

        void xuat();

        float khoangcach(Khonggian d2);

```



```

        Khonggian cong(Khonggian d2);
};

```

```

void Khonggian::nhap()

```

```

{
    for(int i=0;i<n;++i)
        { cout<<"a["<<i<<"]="";
          cin>>a[i];
        }
}

```

```

void Khonggian::xuat()

```

```

{
    cout<<"(";
    for(int i=0;i<n-1;++i)
        cout<<a[i]<<",";
    cout<<a[n-1]<<")"<<endl;
}

```

```

float Khonggian::khoangcach(Khonggian d2)

```

```

{ float S = 0.0;
  for(int i =0; i<n;i++)
      S = S + pow(d2.a[i]-a[i],2);
  return sqrt(S);
}

```

```

Khonggian Khonggian::cong(Khonggian d2)

```

```

{
    Khonggian d;

```

```

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

            d.a[i] = a[i] + d2.a[i];

        return d;

    }

int main()

{

    Khonggian d1,d2,d3;


    cout<<"\n Nhap du lieu cho doi tuog thu 1: ";

    d1.nhap();


    cout<<"\n Nhap du lieu cho doi tuog thu 2: ";

    d2.nhap();

    cout<<"\n Doi tuong d1: "; d1.xuat();

    cout<<"\n Doi tuong d2: "; d2.xuat();


    cout<<"\n Khoang cach giua d1 va d2: "

        <<d1.khoangcach(d2);


    d3 = d1.cong(d2);

    cout<<"\n d1 + d2 = ";

    d3.xuat();


    return 0;

}

```

Bài tập về DSLK

```
#include <iostream>
```

```

#include <stdlib.h>

#include <string.h>

#include <stdio.h>

using namespace std;

//mo ta cau truc cua nut trong dslk
class Hocphan
{
    private:
        char *mahp,*tenhp;
        int sotc;
    public:
        Hocphan *next;
        //ham tao de khoi tao gia tri cac thuoc tinh
        Hocphan(char *mhp,char *thp, int tc)
        {
            mahp = new char[strlen(mhp)+1];
            tenhp = new char[strlen(thp)+1];
            strcpy(mahp,mhp);
            strcpy(tenhp,thp);
            sotc = tc;
        }
        //cac ham lay gia tri thuoc tinh
        char *GetMaHP()
        {
            return mahp;
        }
        char *GetTenHP()
        {

```

```

        return tenhp;
    }
    int GetSoTC()
    {
        return sotc;
    }
    //ham gan gia tri cho cac thuoc tinh, dung cho ham sapxep
    void Set(char *mhp,char *thp, int tc)
    {
        mahp = new char[strlen(mhp)+1];
        tenhp = new char[strlen(thp)+1];
        strcpy(mahp,mhp);
        strcpy(tenhp,thp);
        sotc = tc;
    }
};

//lop List de mo ta cac doi tuong la dslk
class List
{
    private:
        Hocphan *first;
    public:
        List() //khoei tao danh sach rong
        {
            first = NULL;
        }
        void Nhap();
        void HienThi();

```

```

        void SapXep();

        Hocphan *TimKiem(char *hp);

        void Xoa(char *hp);

};

void List::Nhap() //bo sung dau danh sach
{
    char mhp[10],thp[30];

    int tc;

    do
    {
        cout<<"\n Nhap ma hoc phan: ";

        fflush(stdin); gets(mhp);

        if(strcmpi(mhp,"") != 0)
        {
            cout<<"\n Nhap ten hoc phan: ";

            fflush(stdin); gets(thp);

            cout<<"\n Nhap so tin chi: "; cin>>tc;

            //cap phat bo nho va gan du lieu cho p
            Hocphan *p = new Hocphan(mhp,thp,tc);

            //chen dau dslk
            p->next = first;

            first = p;

        }

    }while(strcmpi(mhp,"") != 0) ;

}

void List::HienThi()

{

```

```

Hocphan * p = first;

while(p != NULL)
{
    cout<<"\n\n-----";

    cout<<"\n  Ma hoc phan: "<<p->GetMaHP();
    cout<<"\n  Ten hoc phan: "<<p->GetTenHP();
    cout<<"\n  So tin chi: "<<p->GetSoTC();
    cout<<"\n\n-----";

    p = p->next;
}

}

void List::SapXep()
{
    Hocphan *p,*q;
    char temmahp[30],temthp[30];
    int temtc;
    if(first != NULL)
    for(p = first; p->next != NULL; p= p->next)
    for(q = p->next; q != NULL; q = q->next)
        if(strcmp (p->GetMaHP(),q->GetMaHP()) > 0)
        {
            strcpy(temmahp,p->GetMaHP());
            strcpy(temthp,p->GetTenHP());
            temtc = p->GetSoTC();
            p->Set(q->GetMaHP(),q->GetTenHP(),
q->GetSoTC());
            q->Set(temmahp,temthp,temtc);
        }
}

```

```

    }

Hocphan * List::TimKiem(char *mhp)
{
    Hocphan *p = first;
    while (p!=NULL && strcmpi(p->GetMaHP(),mhp)!=0)
        p = p->next;
    return p;
}

void List::Xoa(char *mhp)
{
    while (first!=NULL &&
    strcmpi(first ->GetMaHP(),mhp) == 0) //xoa nut dau
    {
        Hocphan *tam = first;
        first = first ->next;
        delete tam;
    }
    if(first!=NULL)
    {
        Hocphan *p = first;
        while(p->next!=NULL)
            if(strcmpi(p->next->GetMaHP(),mhp) == 0)
            {
                Hocphan *tam = p->next;
                p->next = p->next->next;
                delete tam;
            }
        else

```

```

        p = p->next;

    }

}

int main()
{
    List ds; //khai bao 1 ds doi tuong cua lop List
    ds.Nhap();
    cout<<"\n Hien thi danh sach hoc phan: ";
    ds.HienThi();

    ds.SapXep();
    cout<<"\n Hien thi sau khi sap xep: ";
    ds.HienThi();

    char mhp[10],thp[30];
    cout<<"\n Nhap vao ma hp muon xoa: ";
    fflush(stdin); gets(mhp);
    ds.Xoa(mhp);

    cout<<"\n Hien thi sau khi xoa: ";
    ds.HienThi();
    cout<<"\n Nhap vao ma hp muon tim kiem ";
    fflush(stdin); gets(mhp);

    Hocphan *p = ds.TimKiem(mhp);
    char c;
    if(p!= NULL)

```



```
{  
    cout<<"\n Da tim thay hp cua ban! ";  
    cout<<"\n Ma hp :"<<p->GetMaHP();  
    cout<<"\n Ten hp:"<<p->GetTenHP();  
    cout<<"\n So tc:"<<p->GetSoTC();  
}  
else  
    cout<<"\n Khong tim thay ma hoc phan nay";  
return 0;  
}
```