

# Bai 1 Vector3d

```
#include<iostream>
using namespace std;
typedef struct {
    float x;
    float y;
    float z;
} VECTOR3D;
VECTOR3D setVector(float x, float y, float z) {
    VECTOR3D VT;
    VT.x = x;
    VT.y = y;
    VT.z = z;
    return VT;
}
VECTOR3D operator + (VECTOR3D A, VECTOR3D B) {
    VECTOR3D vt3D;
    vt3D.x = A.x + B.x;
    vt3D.y = A.y + B.y;
    vt3D.z = A.z + B.z;
    return vt3D;
}
VECTOR3D operator - (VECTOR3D A, VECTOR3D B) {
    VECTOR3D vt3D;
    vt3D.x = A.x - B.x;
    vt3D.y = A.y - B.y;
    vt3D.z = A.z - B.z;
    return vt3D;
}
VECTOR3D operator * (VECTOR3D A, VECTOR3D B) {
    VECTOR3D vt3D;
    vt3D.x = A.x * B.x;
    vt3D.y = A.y * B.y;
    vt3D.z = A.z * B.z;
    return vt3D;
}
VECTOR3D operator / (VECTOR3D A, VECTOR3D B) {
    VECTOR3D vt3D;
    vt3D.x = A.x / B.x;
    vt3D.y = A.y / B.y;
    vt3D.z = A.z / B.z;
    return vt3D;
}
VECTOR3D InputVector(char N) {
    int x, y, z;
    cout << "Moi ban nhap vector " << N << "= " << endl;
    cout << "Moi ban nhap vao hoành đo " << N << ".x = ";
    cin >> x;
    cout << "Moi ban nhap vao tung đo " << N << ".y = ";
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        cin >> y;
        cout << "Moi ban nhap vao cao do " << N << ".z = ";
        cin >> z;
        VECTOR3D vt = setVector(x,y,z);
        return vt;
    }
    void DisplayVector3D(VECTOR3D M, char N) {
        cout << "Xuat Vector 3D " << N << endl;
        cout << N << "( " << M.x << ", " << M.y << ", " << M.z << ")" << endl;
    }
    void Menu() {
        cout << " -----" << endl;
        cout << "\t1. Cong Vector 3D " << endl;
        cout << "\t2. Tru Vector 3D " << endl;
        cout << "\t3. Nhan Vector 3D " << endl;
        cout << "\t4. Chia Vector 3D " << endl;
        cout << " -----" << endl;
    }
    int main() {
        while (true) {
            VECTOR3D A, B,C;
            char X = 'X', Y = 'Y', Z = 'Z';
            A = InputVector(X);
            DisplayVector3D(A, X);
            B = InputVector(Y);
            DisplayVector3D(B, Y);

            Menu();
            int chucnang;
            cout << "Moi ban chon chuc nang " << endl;
            cin >> chucnang;
            switch (chucnang) {
                case 1: {
                    C = A + B;
                    cout << "Tong 2 Vector " << X << " + " << Y <<
endl;
                    DisplayVector3D(C, Z);
                    break;
                }
                case 2: {
                    C = A - B;
                    cout << "Hieu 2 Vector " << X << " - " << Y << endl;
                    DisplayVector3D(C, Z);
                    break;
                }
                case 3: {
                    C = A * B;
                    cout << "Tich 2 Vector " << X << " * " << Y << endl;
                    DisplayVector3D(C, Z);
                    break;
                }
            }
        }
    }
}

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    }
    case 4: {
        C = A / B;
        cout << "Thuong 2 Vector " << X << " + " << Y <<
endl;

        DisplayVector3D(C, Z);
        break;
    }
}
cout << " Ban co muon thoat chuong trinh (y/n)";
char m;
cin >> m;
if (m == 'y' || m == 'Y') {
    break;
}
}
system("pause");
return 0;
}

```

Bai 2 : Mang cap phat dong

```

#include<iostream>
using namespace std;
void createArray(int **&p, int n) {
    p = new int *[n];
    for (int i = 0; i < n; i++) {
        p[i] = new int[n];
    }
}
void InputArray(int **&p, int n, char c) {
    for (int i = 0; i < n; i++) {
        for (int j = 0; j < n; j++) {
            cout << c << " [" << i << ", " << j << "] = ";
            cin >> p[i][j];
            cout << endl;
        }
    }
}
void OutArray(int **p, int n) {
    for (int i = 0; i < n; i++) {
        for (int j = 0; j < n; j++) {
            cout << p[i][j] << " ";
        }
        cout << endl;
    }
}
int ** AddMatricAandB(int **p, int **q, int n) {
    int ** k;
}

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        createArray(k, n);
        for (int i = 0; i < n; i++) {
            for (int j = 0; j < n; j++) {
                k[i][j] = p[i][j] + q[i][j];
            }
        }
        return k;
    }
}

int **NhanMaTran(int **p, int **q, int n) {
    int ** k;
    createArray(k, n);
    for (int i = 0; i < n; i++) {
        for (int j = 0; j < n; j++) {
            k[i][j] += p[i][j] * q[j][i];
        }
    }
    return k;
}

void deleteArraypointer(int **p, int n) {
    for (int i = 0; i < n; i++) {
        delete[] p[i];
    }
    delete[] p;
}

int main() {
    int **p;
    int n;
    char A = 'A', B = 'B';
    cout << "Moi Ban Nhap ma tran vuong cap n = " << endl;
    cin >> n;
    createArray(p, n);
    InputArray(p, n, A);
    cout << "Ma tran A = [] " << endl;
    OutArray(p, n);
    int **q;
    cout << "-----" << endl;
    createArray(q, n);
    InputArray(q, n, B);
    cout << "Ma tran B = [] " << endl;
    OutArray(q, n);
    int ** matranadd;
    matranadd = AddMatricAandB(p, q, n);
    cout << "Ma tran M = [] sau khi cong " << endl;
    OutArray(matranadd, n);
    cout << "-----" << endl;
    int ** matrannhan;

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    matrannhan = NhanMaTran(p, q, n);
    cout << "Ma tran N = [] sau khi nhan " << endl;
    OutArray(matrannhan, n);
    // giai phong vung nho
    deleteArraypointer(p, n);
    deleteArraypointer(q, n);
    deleteArraypointer(matranadd, n);
    system("pause");
    return 0;
}

```

### Bai3 : Ngay Thang Nam

```

#include<iostream>
using namespace std;
struct SetTypeDate
{
    int date;
    int month;
    long year;
};
SetTypeDate settingDate(int date, int month, long year) {
    SetTypeDate stdate;
    stdate.date = date;
    stdate.month = month;
    stdate.year = year;
    return stdate;
}
void menu() {
    cout << "***** Menu *****" << endl;
    cout << "1.Input type Day " << endl;
    cout << "2.Output type Day " << endl;
    cout << "3. Addition Date" << endl;
    cout << "4. Sub Data" << endl;
    cout << "*****" << endl;
}
SetTypeDate Input() {
    int ngay, thang;
    long nam;
    nhapngay :
    cout << "Nhap vao ngay" << endl;
    cin >> ngay;
    if (ngay > 31 || ngay < 1)
        goto nhapngay;
    nhapthang :
    cout << "Nhap vao Thang" << endl;
    cin >> thang;
    if (thang > 12 || thang < 1)
        goto nhapthang;
    cout << "Nhap nam " << endl;
    cin >> nam;
    SetTypeDate ngaythangnam = settingDate(ngay, thang, nam);
    return ngaythangnam;
}
int main() {
    SetTypeDate ds;
}

```

```
    ds = Input();  
    system("pause");  
    return 0;  
}
```