#include <iostream>

#include <string>

using namespace std;

const int SiSo = 45;

struct SinhVien

{

string mssv;

string hoten;

string diachi;

int namsinh;

double diemtoan;

double diemvan;

double diemngoaingu;

};

void Nhap1SinhVien ( SinhVien &sv)

{

cin.ignore();

cout <<" Nhap vao ma so sinh vien: ";

getline (cin, sv.mssv);

cout <<" Nhap vao ho ten sinh vien: ";

getline ( cin, sv.hoten);

cout <<" Nhap vao dia chi cua sinh vien: ";

getline (cin, sv.diachi);

cout <<" Nhap vao nam sinh sinh vien: ";

cin >> sv.namsinh;

cout <<" Nhap vao diem toan cua sinh vien: ";

cin >> sv.diemtoan;

cout <<" Nhap vao diem van cho sinh vien: ";

cin >> sv.diemvan;

cout <<" Nhap vao diem ngoai ngu cho sinh vien: ";

cin >> sv.diemngoaingu;

}

void Xuat1SinhVien ( SinhVien sv)

{

cout <<" Ma so sinh vien: " << sv.mssv << endl;

cout <<" Ho ten sinh vien: " << sv.hoten << endl;

cout <<" Dia chi sinh vien: " << sv.diachi << endl;

cout <<" Sinh vien sinh nam: " << sv.namsinh << endl;

cout <<" Diem toan cua sinh vien: " << sv.diemtoan << endl;

cout <<" Diem van cua sinh vien: " << sv.diemvan << endl;

cout <<" Diem ngoai ngu cua sinh vien: " << sv.diemngoaingu << endl;

}

void NhapDanhSachSinhVien ( SinhVien \*dssv, int n)

{

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

{

cout <<"\*\*\*\*\*\*\*\*\*NHAP THONG TIN CHO SINH VIEN THU " << i + 1 <<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* \n";

Nhap1SinhVien(\*(dssv+i));

cout << endl;

}

}

void XuatDanhSachSinhVien ( SinhVien \*dssv, int n)

{

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

{

cout <<"\*\*\*\*\*\*\*\*\*THONG TIN CHO SINH VIEN THU " << i + 1<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* \n";

Xuat1SinhVien(\*(dssv+i));

cout << endl;

}

}

void XuatSinhVienNguoiDungYeucau ( SinhVien \*dssv, int n, int vtsv)

{

cout <<" THONG TIN SINH VIEN BAN CAN CO THONG TIN NHU SAU: \n";

Xuat1SinhVien(\*(dssv + vtsv - 1));

}

double DiemTrungBinh ( SinhVien sv)

{

return ((sv.diemtoan + sv.diemvan)\*2 + sv.diemngoaingu) / 5;

}

void XepLoai ( SinhVien sv)

{

double dtb = DiemTrungBinh(sv);

if ( dtb >= 8 )

cout <<" Xep loai Gioi\n";

else

if ( dtb >= 6.5 )

cout <<" Xep loai kha\n";

else

if ( dtb >= 5)

cout <<" Xep Loai Trung Binh\n";

else

cout <<" Xep Loai Yeu, Kem\n";

}

int main ()

{

SinhVien \*dssv;

int n, vtsv; // vtsv la vi tri sinh vien nguoi dung yeu cau

do {cout <<" Ban muon nhap bao nhieu sinh vien: ";

cin >> n;

if ( n <= 0 || n > SiSo )

cout <<" Nhap sai. Nhap lai\n";

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

dssv = new SinhVien[n];

NhapDanhSachSinhVien(dssv, n);

cout <<" ++++++++++++DANH SACH SINH VIEN LOP BAN NHU SAU \n";

XuatDanhSachSinhVien(dssv, n);

cout <<" Ban muon tim sinh vien co so thu tu bao nhieu: ";

cin >> vtsv;

XuatSinhVienNguoiDungYeucau(dssv, n, vtsv);

// Xuat Diem trung binh cua ca lop

cout <<" Diem Trung Binh cua tung sinh vien nhu sau\n";

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

{

cout <<" Thong tin diem trung binh cua sinh vien thu " << i +1 <<" :\n";

cout << (\*(dssv+i)).mssv << endl << (\*(dssv+i)).hoten << endl << " Diem Trung Binh: " << DiemTrungBinh(\*(dssv+i)) << endl;

XepLoai(\*(dssv+i));

}

delete []dssv;

dssv = nullptr;

system ("pause");

return 0;

}