Bai 1

#include <iostream>

using namespace std;

int main (){

int n,m,a[100][100];

cout << "nhap kich thuoc cua mang: ";

cin >> n >> m;

cout << "nhap mang" << endl;

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

for (int j=0; j<m; j++){

cin >> a[i][j];

}

}

cout << "mang la: " << endl;

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

for (int j=0; j<m; j++){

cout << a[i][j] << " ";

}

cout << endl;

}

}

Bai 2

#include <iostream>

using namespace std;

void nhapmang (int a[100][100], int n, int m){

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

for (int j=0; j<m; j++){

cin >> a[i][j];

}

}

}

int timmax (int a[100][100], int n, int m){

int max=a[0][1];

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

if (max<a[i][1]){

max=a[i][1];

}

}

return max;

}

int main (){

int b[100][100], c,d;

cout << "nhap kich thuoc cua mang: ";

cin >>c>>d;

cout << "nhap mang" << endl;

nhapmang (b,c,d);

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

int sum=0;

for (int j=0; j<d; j++)

sum+=b[i][j];

cout << "tong cac phan tu tren hang: " << i << " la: " << " "<< sum << endl;

}

cout << "gia tri lon nhat cot 1: "<< timmax (b,c,d);

}

Bai 3

#include <iostream>

using namespace std;

void nhapmang (int a[100][100], int n, int m){

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

for (int j=0; j<m; j++){

cin >> a[i][j];

}

}

}

void xuatmang (int a[100][100], int n, int m){

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

for (int j=0; j<m; j++){

cout << a[i][j] << " ";

}

cout << endl;

}

}

int timmax (int a[100][100], int n, int m){

int max=a[0][0];

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

for (int j=0; j<m; j++){

if (max<a[i][j]){

max=a[i][j];

}

}

}

return max;

}

int timmin (int a[100][100], int n, int m){

int min = a[0][0];

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

for (int j=0; j<m; j++){

if (min>a[i][j]){

min=a[i][j];

}

}

}

return min;

}

int main (){

int b[100][100];

int c,d;

cout << "nhap kich thuoc cua ma tran: ";

cin >> c >> d;

cout << "nhap ma tran" << endl;

nhapmang (b,c,d);

cout << "ma tran la" << endl;

xuatmang (b,c,d);

int p=timmax(b,c,d);

cout << "gia tri lon nhat la: " << p << endl;

int s=timmin (b,c,d);

cout << "gia tri nho nhat la: " << s << endl;

return 0;

}

Bai 4

#include <iostream>

#include <math.h>

using namespace std;

void nhapmang (int a[100][100], int n, int m){

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

for (int j=0; j<m; j++){

cin >> a[i][j];

}

}

}

void xuatmang (int a[100][100], int n, int m){

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

for (int j=0; j<m; j++){

cout << a[i][j] << " ";

}

cout << endl;

}

}

bool checksnt (int n){

if(n < 2)

return false;

for(int i = 2 ; i <= sqrt(n) ; ++i)

if(n % i == 0)

return false;

return true;

}

int insnt(int a[100][100], int n, int m){

int count =0;

int q[100]={0};

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

for (int j=0; j<m; j++){

if (checksnt(a[i][j])==true){

++count;

q[count-1]=a[i][j];

}

}

}

if(count == 0){

cout << "Ma tran da nhap khong co phan tu nao la so nguyen to.";

return 0;

}

cout << "Ma tran co: " << count << " so nguyen to." << endl;

cout << "Cac so nguyen to ton tai trong ma tran la: ";

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

cout << q[i] << " ";

cout << endl;

return 0;

}

int main() {

int c, d;

int b[100][100];

cout << "Nhap kich thuoc cua ma tran: ";

cin >> c >> d;

cout << "nhap ma tran: "<< endl;

nhapmang(b,c,d);

cout << "ma tran la: "<<endl;

xuatmang(b,c,d);

insnt(b,c,d);

return 0;

}

Bai 5

#include <iostream>

using namespace std;

int timmax (int a[100][100], int n){

int max = a[0][0];

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

if (max < a[i][i]){

max = a[i][i];

}

}

return max;

}

int main(){

int b[100][100];

int c,d;

cout << "nhap kich thuoc mang: ";

cin >>c>>d;

cout << "nhap mang" << endl;

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

for(int j=0; j<d; j++){

cin >> b[i][j];

}

}

int p = timmax(b,c);

cout << "gia tri lon nhat tren duong cheo chinh la: " << p;

}

Bai 6

#include <iostream>

#include <math.h>

using namespace std;

void nhapmang (int a[100][100], int m, int n){

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

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

cin >> a[i][j];

}

}

}

void xuatmang (int a[100][100], int m, int n){

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

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

cout << a[i][j] << " ";

}

cout << endl;

}

}

void xoarow(int a[100][100], int m, int n, int xrow){

if(xrow >= 0 && xrow < n){

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

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

if(i >= xrow)

a[i][j] = a[i + 1][j];

--m;

cout << "Ma tran sau khi xoa dong: " << xrow << endl;

xuatmang(a, m, n); cout << endl;

}

}

void xoacol(int a[100][100], int m, int n, int xcol){

if(xcol >= 0 && xcol < n){

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

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

if(j >= xcol)

a[i][j] = a[i][j + 1];

--n;

cout << "Ma tran sau khi xoa cot: " << xcol << endl;

xuatmang(a, m, n); cout << endl;

}

}

int main(){

int c, d;

int b[100][100];

cout << "Nhap so dong va so cot: ";

cin >> c >> d;

cout << "nhap ma tran: "<< endl;

nhapmang(b, c, d);

cout << "ma tran la: " << endl;

xuatmang(b, c, d);

int cot,hang;

cout << "nhap so cot can xoa: ";

cin >> cot ;

xoacol(b, c, d,cot);

cout << "nhap so hang can xoa: ";

cin >> hang ;

xoarow(b, c, d - 1, hang);

return 0;

}

Bai 7

#include <iostream>

#include <math.h>

using namespace std;

void swap(int& a, int& b){

int temp = a;

a = b;

b = temp;

}

void nhapmang (int a[100][100], int m, int n){

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

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

cin >> a[i][j];

}

}

}

void xuatmang (int a[100][100], int m, int n){

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

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

cout << a[i][j] << " ";

}

cout << endl;

}

}

void doihang(int a[100][100], int m, int n, int hang1, int hang2){

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

swap(a[hang1][j], a[hang2][j]);

cout << "Ma tran sau khi doi hang " << hang1 <<" voi hang " << hang2 << " la: "<< endl;

xuatmang(a, m, n);

}

void doicot(int a[100][100], int m, int n, int cot1, int cot2){

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

swap(a[i][cot1], a[i][cot2]);

cout << "Ma tran sau khi doi cot "<<cot1<<" voi cot: "<< cot2 << " la: " << endl;;

xuatmang(a, m, n);

}

int main(){

int c, d,e,f,g,h;

int aa[100][100];

cout << "Nhap kich thuoc cua ma tran: ";

cin >> c >> d;

cout << "Nhap ma tran" << endl;

nhapmang(aa, c, d);

cout << "Ma tran la:" << endl;

xuatmang(aa, c, d);

cout << "Nhap hai hang can doi cho voi nhau: ";

cin >> e >> f;

doihang(aa, c, d, e, f);

cout << "Nhap hai cot can doi cho voi nhau: ";

cin >> g >> h;

doicot(aa, c, d, g, h);

return 0;

}

Bai 8

#include <iostream>

using namespace std;

const int ROW = 100;

const int COL = 100;

void arrInput(int arr[ROW][COL], int m, int n){

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

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

cout << "Nhap vao ma tran hang[" << i + 1 << "] cot[" << j + 1 << "]: ";

cin >> arr[i][j];

}

}

void arrOutput(int arr[][COL], int m, int n){

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

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

cout << arr[i][j] << "\t";

cout << endl;

}

}

void sumMatrix(int arr\_1[][COL], int arr\_2[][COL], int m, int n){

int sum[ROW][COL];

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

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

sum[i][j] = arr\_1[i][j] + arr\_2[i][j];

cout << "Ket qua cua phep cong ma tran:" << endl;

arrOutput(sum, m, n);

}

int main(){

int m, n;

cout << "Nhap kich thuoc cua ma tran: ";

cin >> m >> n;

int arr\_1[ROW][COL];

int arr\_2[ROW][COL];

cout << "Nhap vao ma tran thu nhat: " << endl;

arrInput(arr\_1, m, n);

cout << endl;

cout << "Nhap vao ma tran thu hai: " << endl;

arrInput(arr\_2, m, n);

cout<< endl;

cout << "Ma tran da nhap: " << endl;

arrOutput(arr\_1, m, n); cout << endl;

arrOutput(arr\_2, m, n); cout << endl;

sumMatrix(arr\_1, arr\_2, m, n);

return 0;

}

Bai 9

#include <iostream>

#include <math.h>

using namespace std;

void swap(int& a, int& b){

int temp = a;

a = b;

b = temp;

}

void nhapmang (int a[100][100], int m, int n){

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

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

cin >> a[i][j];

}

}

}

void xuatmang (int a[100][100], int m, int n){

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

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

cout << a[i][j] << " ";

}

cout << endl;

}

}

int kiem\_tra\_duong\_cheo\_chinh(int a[100][100], int m) {

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

for (int j = 0; j < m; j++) {

if (a[i][j] != a[j][i]) {

return 0;

}

}

}

return 1;

}

int main() {

int b[100][100];

int hang, cot;

cout << "nhap kich thuoc ma tran: ";

cin >> hang >> cot;

if (hang != cot) {

cout << "Ma tran khong phai la ma tran vuong." << endl;

return 0;

}

nhapmang(b, hang, cot);

cout << "Ma tran:" << endl;

xuatmang(b, hang, cot);

cout << (kiem\_tra\_duong\_cheo\_chinh(b, hang) == 1 ? "Ma tran doi xung qua duong cheo chinh" : "Ma tran khong doi xung qua duong cheo chinh");

}

Bai 10

#include <iostream>

#include <string>

using namespace std;

const int MAX\_SACH = 50;

struct Sach {

char tenSach[100];

char tacGia[100];

float gia;

};

Sach danhSachSach[MAX\_SACH];

Sach donHang[MAX\_SACH];

int soLuongSach = 0;

int soLuongDonHang = 0;

bool coChuoiCon(const char chuoiChinh[], const char chuoiCon[]) {

int m = strlen(chuoiChinh);

int n = strlen(chuoiCon);

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

int j;

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

if (chuoiChinh[i + j] != chuoiCon[j])

break;

}

if (j == n)

return true; // Chuỗi con được tìm thấy

}

return false; // Chuỗi con không được tìm thấy

}

void hienThiDanhSachSach() {

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

cout << "Cuon " << i + 1 << ":" << endl;

cout << "Ten sach: " << danhSachSach[i].tenSach << endl;

cout << "Tac gia: " << danhSachSach[i].tacGia << endl;

cout << "Gia: " << danhSachSach[i].gia << endl;

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

}

}

void timSach(const char timKiem[]) {

bool timThay = false;

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

if (coChuoiCon(danhSachSach[i].tenSach, timKiem) || coChuoiCon(danhSachSach[i].tacGia, timKiem)) {

cout << "Cuon " << i + 1 << ":" << endl;

cout << "Ten sach: " << danhSachSach[i].tenSach << endl;

cout << "Tac gia: " << danhSachSach[i].tacGia << endl;

cout << "Gia: " << danhSachSach[i].gia << endl;

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

timThay = true;

}

}

if (!timThay) {

cout << "Khong tim thay sach." << endl;

}

}

void themSach() {

if (soLuongSach < MAX\_SACH) {

cout << "Nhap thong tin cuon sach:" << endl;

cout << "Ten sach: ";

cin.ignore();

cin.getline(danhSachSach[soLuongSach].tenSach, 100);

cout << "Tac gia: ";

cin.getline(danhSachSach[soLuongSach].tacGia, 100);

cout << "Gia: ";

cin >> danhSachSach[soLuongSach].gia;

soLuongSach++;

cout << "Da them sach vao danh sach." << endl;

}

else {

cout << "Danh sach sach da day, khong the them them sach moi." << endl;

}

}

float tinhTongTien(Sach donHang[]) {

float tongTien = 0.0;

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

tongTien += donHang[i].gia;

}

return tongTien;

}

void datHang() {

cout << "Nhap so thu tu cuon sach muon dat: ";

int soThuTu;

cin >> soThuTu;

if (soThuTu >= 1 && soThuTu <= soLuongSach) {

cout << "Nhap so luong muon dat: ";

int soLuongMuonDat;

cin >> soLuongMuonDat;

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

donHang[soLuongDonHang++] = danhSachSach[soThuTu - 1];

}

cout << "Da them sach vao don hang." << endl;

}

else {

cout << "So thu tu khong hop le." << endl;

}

}

void hienThiDonHang(int soLuongSachCanTinh) {

float tongTien = tinhTongTien(donHang);

cout << "Danh sach sach trong don hang:" << endl;

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

cout << "Cuon " << i + 1 << ":" << endl;

cout << "Ten sach: " << donHang[i].tenSach << endl;

cout << "Tac gia: " << donHang[i].tacGia << endl;

cout << "Gia: " << donHang[i].gia << endl;

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

}

cout << "Tong so tien can thanh toan: " << tongTien << " VND" << endl;

}

int main() {

int luaChon;

do {

cout << "===== Quan Ly Nha Sach =====" << endl;

cout << "1. Them sach" << endl;

cout << "2. Hien thi danh sach sach" << endl;

cout << "3. Tim sach theo ten sach hoac tac gia" << endl;

cout << "4. Dat hang" << endl;

cout << "5. Xem don hang" << endl;

cout << "6. Thoat" << endl;

cout << "Nhap lua chon cua ban: ";

cin >> luaChon;

switch (luaChon) {

case 1:

themSach();

break;

case 3:

char timKiem[100];

cout << "Nhap ten sach hoac tac gia can tim: ";

cin.ignore();

cin.getline(timKiem, 100);

timSach(timKiem);

break;

case 2:

hienThiDanhSachSach();

break;

case 4:

datHang();

break;

case 5:

int soLuongSachCanTinh;

cout << "Nhap so luong sach can tinh trong don hang: ";

cin >> soLuongSachCanTinh;

hienThiDonHang(soLuongSachCanTinh);

break;

case 6:

cout << "Cam on da su dung chuong trinh. Hen gap lai!" << endl;

break;

default:

cout << "Lua chon khong hop le. Vui long chon lai." << endl;

break;

}

} while (luaChon != 6);

return 0;

}