1.

#include <iostream>

using namespace std;

void nhap\_Mang(int \*\*a, int dong, int cot)

{

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

{

cout << "Nhap " << cot << " so nguyen cho dong: " << i + 1 << ": ";

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

cin >> \*(\*(a + i) + j);

}

}

void xuat\_Mang(int \*\*a, int dong, int cot)

{

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

{

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

cout << \*(\*(a + i) + j) << "\t";

cout << endl;

}

}

int tinh\_Tich\_Tai\_Dong(int \*\*a, int dong, int cot)

{

int tich = 0;

dong--;

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

{

if (\*(\*(a + dong) + i) % 2 != 0)

{

if(tich == 0)

tich = 1;

tich \*= \*(\*(a + dong) + i);

}

}

return tich;

}

int main()

{

int dong, cot;

int \*\*a;

int hang\_Tinh\_Tich;

cout << "Nhap so dong: ";

cin >> dong;

do {

if (dong < 1 || dong > 10)

{

cout << "Nhap so dong phai tu 1 den 10. Nhap lai: ";

cin >> dong;

}

} while (dong < 1 || dong > 10);

cout << "Nhap so cot: ";

cin >> cot;

do {

if (cot < 1 || cot > 15)

{

cout << "Nhap so cot phai tu 1 den 15. Nhap lai: ";

cin >> cot;

}

} while (cot < 1 || cot > 15);

a = new int\*[dong];

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

a[i] = new int[cot];

nhap\_Mang(a, dong, cot);

cout << "Mang vua nhap la: \n";

xuat\_Mang(a, dong, cot);

cout << "Nhap hang can tinh tich cac so le: ";

cin >> hang\_Tinh\_Tich;

do {

if (hang\_Tinh\_Tich < 1 || hang\_Tinh\_Tich > dong)

{

cout << "Nhap hang tu 1 den " << dong << ". Nhap lai: ";

cin >> hang\_Tinh\_Tich;

}

} while (hang\_Tinh\_Tich < 1 || hang\_Tinh\_Tich > dong);

if (tinh\_Tich\_Tai\_Dong(a, hang\_Tinh\_Tich, cot) == 0)

cout << "Khong co so le nao.\n";

else

cout << "Tich cac so le tai hang " << hang\_Tinh\_Tich << " la: " << tinh\_Tich\_Tai\_Dong(a, hang\_Tinh\_Tich, cot) << endl;

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

delete[] a[i];

delete[]a;

a = nullptr;

return 0;

}

2.

#include <iostream>

using namespace std;

int tinh\_Giai\_Thua(int n)

{

if (n == 1)

return 1;

else

return n \* tinh\_Giai\_Thua(n - 1);

}

double tinh\_Tong(int n)

{

if (n == 2)

return 1.0 / 2;

else

return tinh\_Tong(n - 1) + (1.0 / tinh\_Giai\_Thua(n));

}

int main()

{

int n;

cout << "Nhap so nguyen duong: ";

cin >> n;

do {

if (n <= 1)

{

cout << "Nhap so nguyen duong lon hon 1. Nhap lai: ";

cin >> n;

}

} while (n <= 1);

cout << "Tong chuoi la: " << tinh\_Tong(n) << endl;

}

3.

#include <iostream>

using namespace std;

void nhap\_Mang(int \*mang, int phan\_Tu)

{

cout << "Nhap " << phan\_Tu << " so nguyen: ";

for (int i = 0; i < phan\_Tu; i++)

cin >> \*(mang + i);

}

void xuat\_Mang(int \*mang, int phan\_Tu)

{

for (int i = 0; i < phan\_Tu; i++)

cout << \*(mang + i) << " ";

}

int\* kiem\_Tra\_Phan\_Tu\_Cuoi\_La\_So\_Chinh\_Phuong(int \*mang, int phan\_Tu)

{

for (int i = phan\_Tu; i >= 0; i--)

{

int dem = 0;

while (dem \* dem <= \*(mang + i))

{

if (dem \* dem == \*(mang + i))

{

int vi\_Tri = i;

return &mang[vi\_Tri];

}

dem++;

}

}

return NULL;

}

void xoa\_Phan\_Tu(int \*mang, int &phan\_Tu, int vi\_Tri\_Xoa)

{

vi\_Tri\_Xoa--;

for (int i = vi\_Tri\_Xoa; i < phan\_Tu; i++)

\*(mang + i) = \*(mang + i + 1);

phan\_Tu--;

}

int main()

{

int \*mang;

int phan\_Tu, vi\_Tri\_Xoa, \*dia\_Chi\_Chinh\_Phuong;

cout << "Nhap so phan tu: ";

cin >> phan\_Tu;

do {

if (phan\_Tu <= 0 || phan\_Tu > 20)

{

cout << "Nhap phan tu tu 0 den 20 phan tu. Nhap lai: ";

cin >> phan\_Tu;

}

} while (phan\_Tu <= 0 || phan\_Tu >20);

mang = new int[phan\_Tu];

nhap\_Mang(mang, phan\_Tu);

cout << "Mang vua nhap: ";

xuat\_Mang(mang, phan\_Tu);

cout << endl;

cout << "Dia chi phan tu dau tien cua mang: " << int(&mang[0]) << endl;

dia\_Chi\_Chinh\_Phuong = kiem\_Tra\_Phan\_Tu\_Cuoi\_La\_So\_Chinh\_Phuong(mang, phan\_Tu);

if (dia\_Chi\_Chinh\_Phuong == NULL)

cout << "Khong co phan tu chinh phuong trong mang.\n";

else

cout << "Dia chi phan tu chinh phuong cuoi cung trong mang: " << int(dia\_Chi\_Chinh\_Phuong) << endl;

cout << "Nhap vi tri phan tu can xoa: ";

cin >> vi\_Tri\_Xoa;

cout << "Mang sau khi xoa la: ";

xoa\_Phan\_Tu(mang, phan\_Tu, vi\_Tri\_Xoa);

xuat\_Mang(mang, phan\_Tu);

delete[]mang;

mang = NULL;

}

4.

#include <iostream>

using namespace std;

int tam\_Giac\_Pas\_Cal(int x, int y)

{

if (y == 0 || x == y)

return 1;

else

return tam\_Giac\_Pas\_Cal(x- 1, y) + tam\_Giac\_Pas\_Cal(x - 1, y - 1);

}

void ve\_Tam\_Giac\_Pas\_Cal(int chieu\_Cao)

{

int dem = 0;

for (int i = 0; i < chieu\_Cao; i++)

{

int tam = dem;

for (int j = 0; j < chieu\_Cao; j++)

if (i + j >= chieu\_Cao - 1)

{

cout << tam\_Giac\_Pas\_Cal(i, tam);

tam--;

}

else

cout << " ";

cout << endl;

dem++;

}

}

int main()

{

int chieu\_Cao;

int \*\*mang;

cout << "Nhap chieu cao cua tam giac: ";

cin >> chieu\_Cao;

mang = new int\*[chieu\_Cao];

for (int i = 0; i < chieu\_Cao; i++)

mang[i] = new int[chieu\_Cao];

cout << "Tam giac pascal co chieu cao " << chieu\_Cao << ": \n";

ve\_Tam\_Giac\_Pas\_Cal(chieu\_Cao);

for (int i = 0; i < chieu\_Cao; i++)

delete[]mang[i];

delete[]mang;

mang = nullptr;

}