// Nguyen Xuan Thuan

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#include <iostream>

using namespace std;

const int maxr = 100;

const int maxc = 100;

void NhapMang ( int a[][100], int m , int n);

void XuatMang ( int a[][100], int m , int n);

int DemSNT ( int a[][100], int m, int n);

bool SNT (int n);

bool KTSoAm ( int a[][100], int m, int n);

void DaoNguoc ( int a[][100], int m, int n, int dong);

int main ()

{

int a[maxr][maxc];

int m,n;

int dong;

cout <<" Nhap vao so dong: "; cin >> m; cout << endl;

cout <<" Nhap vao so cot: "; cin >> n; cout << endl;

NhapMang (a, m, n);

XuatMang(a, m, n);

// Kiem Tra so Am

if ( KTSoAm(a, m, n )== true )

cout <<" Mang ban nhap co so am\n";

else

cout <<" Mang ban nhap khong co so am\n";

// kiem tra so nguyen to

cout <<" Co " << DemSNT( a, m, n) <<" so nguyen to trong mang\n" << endl;

// dao ngc dong

do{cout <<" Ban muon dao ngc dong: ";

cin >> dong;

if ( dong <= 0 || dong > m)

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

} while ( dong <= 0 || dong > m);

DaoNguoc( a, m, n, dong);

XuatMang( a, m, n);

system("pause");

return 0;

}

// Nhap mang

void NhapMang ( int a[][100], int m , int n)

{

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

{

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

{

cout <<" Nhap gia tri phan tu thu a[" << i <<"][" << j << " ]: ";

cin >> a[i][j];

}

cout << endl;

}

}

// Xuat mang

void XuatMang ( int a[][100], int m , int n)

{

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

{

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

{

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

}

cout << endl;

}

}

// Kiem tra SNT

bool SNT (int n)

{

{

if(n<2)

return false;;

for(int i=2;i<=sqrt(n\*1.0);i++)

{

if(n%i==0)

return false;

}

return true;

}

}

// Dem so nguyen to

int DemSNT ( int a[][100], int m, int n)

{

int dem = 0;

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

{

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

{

if ( SNT(a[i][j]) == true )

dem += 1;

}

}

return dem;

}

// Kiem tra so am

bool KTSoAm ( int a[][100], int m, int n)

{

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

{

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

{

if ( a[i][j] < 0)

return true;

}

}

return false;

}

// dao dong

void DaoNguoc ( int a[][100], int m, int n, int dong)

{

int left = 0, right = n - 1;

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

{

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

{

while ( left < right )

{

int temp = a[dong - 1][left];

a[dong -1][left] = a[dong-1][right];

a[dong-1][right] = temp;

left++; right--;

}

}

}

}