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// chuong trinh xay dung mang ngau nhien va tinh tong tich

#include <iostream>

#include <time.h>

using namespace std;

const int maxN = 100;

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

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

void Tong ( int a[][100],int b[][100], int c[][100], int n);

void Tich ( int a[][100],int b[][100], int c[][100], int n, int p);

int main ()

{

srand(time (NULL));

int a[maxN][maxN] = {0}; int b[maxN][maxN] = {0}; int c[maxN][maxN] = {0};

int N, p;

do {cout <<" Nhap so dong va cot cua ma tran vuong: ";

cin >> N;

if ( N < 2 || N > maxN )

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

} while (N < 2 || N > maxN );

p = N;

// Nhap mang

NhapMang(a, N );

// ham Xuat mang

XuatMang ( a, N);

// Nhap ma Tran A

cout <<" Nhap ma tran A: \n";

NhapMang ( a,N);

// Xuat ma tran A

cout <<" Ma tran A da nhap la: \n";

XuatMang ( a, N);

// Nhap ma tran B

cout <<" Nhap ma tran B: \n";

NhapMang ( b, N);

// Xuat ma tran B

cout <<" Ma tran B da nhap la: \n";

XuatMang ( b, N);

// Tinh tong hai ma tran

Tong( a, b, c, N);

// Xuat ma tran tong

cout <<" Tong hai ma tran A + B la: \n";

XuatMang ( c, N);

// Tinh tich hai ma tran

Tich ( a, b, c, N, p);

// Xuat ma tran Tich

cout <<" Tich hai ma tran A \* B la: \n";

XuatMang ( c, N );

system ("pause");

return 0;

}

// Ham nhap mang

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

{

/\*srand (time(NULL));\*/

cout <<" Nhap vao cac gia tri cua mang: \n";

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

{

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

{

a[i][j] = 1 + rand() % ( 10 - 1 + 1);

}

cout << endl;

}

}

// ham Xuat mang

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

{

cout <<" Cac gia tri mang luu tru la: \n";

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

{

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

{

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

}

cout << endl;

}

}

// Ham tinh tong

void Tong ( int a[][100],int b[][100], int c[][100], int n)

{

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

{

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

{

c[i][j] = a[i][j] + b[i][j];

}

}

}

// Ham tinh tich

void Tich ( int a[][100],int b[][100], int c[][100], int n,int p)

{

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

{

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

{

c[i][j] = 0;

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

c[i][j] = c[i][j] + a[i][k] \* b[k][j];

}

}

}