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// Viet chuong trinh nhan hai ma tran trog mang

#include <iostream>

#include <time.h>

using namespace std;

void NhapMaTran ( int A[][100], int m, int n );

void XuatMaTran ( int A[][100], int m, int n );

void NhanMaTran ( int A[][100], int B[][100], int C[][100], int m, int n, int p );

int main ()

{

int A[][100] = {0};

int B[][100] = {0};

int C[][100] = {0};

int m,n,p; // p la so cot cua ma tran B

cout <<" Nhap so dong cua ma tran A: "; cin >> m; cout << endl;

while ( m < 0 )

{

cout <<" So dong khong hop le. Xin kiem tra lai!\n";

cout <<" Nhap so dong cua ma tran A: "; cin >> m; cout << endl;

}

cout <<" Nhap so cot cua ma tran A ( cung la so dong cua ma tran B ): "; cin >> n; cout << endl;

while ( n < 0 )

{

cout <<" So dong va cot cua 2 ma tran khong hop le. Xin kiem tra lai!\n";

cout <<" Nhap so cot cua ma tran A ( cung la so dong cua ma tran B ): "; cin >> n; cout << endl;

}

cout <<" Nhap so cot cua ma tran B: "; cin >> p; cout << endl;

while ( p < 0 )

{

cout <<" So cot khong hop le. Xin kiem tra lai!\n";

cout <<" Nhap so cot cua ma tran B: "; cin >> p; cout << endl;

}

// Nhap ma tran A

cout <<" Nhap cac he so cua ma tran A: \n";

NhapMaTran ( A, m, n );

// Xuat ma tran A

XuatMaTran (A, m, n );

// Nhap ma tran B

cout <<" Nhap cac he so cua ma tran B: \n";

NhapMaTran ( B, n, p );

// Xuat ma tran B

XuatMaTran ( B, n, p );

// Nhan hai ma tran A \* B

NhanMaTran ( A, B, C, m, n, p );

// Xuat kq sau khi nhan

cout <<" Ma tran A \* B la: \n";

XuatMaTran ( C, m, p );

system ("pause");

return 0;

}

void NhapMaTran ( int A[][100], int m, int n )

{

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

{

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

{

/\*cout <<" Nhap phan tu thu [" << i <<"][" << j <<"]: ";

cin >> A[i][j];\*/

A[i][j] = rand() % 10;

}

cout << endl;

}

}

void XuatMaTran ( 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;

}

}

void NhanMaTran ( int A[][100], int B[][100], int C[][100], int m, int n, int p )

{

for ( int i = 0; i < m; 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];

}

}

}

}