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\*\* Laba 5

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\*\* IO - 91

\*\* 1.5 C = SORT(A) - SORT(B)

\*\* 2.18 c = MIN(MA \* MB)

\*\* 3.11 D = SORT(A - M) \* TRANS(MC)

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#include "stdafx.h"

#include <iostream>

#include <conio.h>

#include <windows.h>

using std::cout;

using std::endl;

const int n = 10;

// \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

void VectorInput(int V[n])

{

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

{

V[i] = 1;

}

}

// \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

void MatrixInput(int M[n][n])

{

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

{

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

{

M[i][j] = 1;

}

}

}

// \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

void VectorOutput(int V[n])

{

if (n <= 10)

{

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

{

cout<<V[i]<<" ";

}

cout<<endl;

}

}

// \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

void MatrixOutput(int M[n][n])

{

if (n < 10)

{

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

{

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

{

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

}

cout<<endl;

}

cout<<endl;

}

}

// \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

void SortVector(int V[])

{

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

{

for (int j = 0; j < n - 1; j++)

{

if (V[j] > V[j + 1])

{

int z = V[j];

V[j] = V[j + 1];

V[j + 1] = z;

}

}

}

}

// \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

//1.5 C = SORT(A) - SORT(B)

void GoFunc1()

{

cout<<"Func1 started"<<endl;

int A[n];

int B[n];

int C[n];

VectorInput(A);

VectorInput(B);

SortVector(A);

SortVector(B);

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

{

C[i] = A[i] - B[i];

}

VectorOutput(C);

cout<<"Func1 finished."<<endl;

}//GoFunc1

// \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

//2.18 c = MIN(MA \* MB)

void GoFunc2()

{

cout<<"Func2 started"<<endl;

int AM[n][n];

int BM[n][n];

int CM[n][n];

MatrixInput(AM);

MatrixInput(BM);

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

{

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

{

CM[i][j] = 0;

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

{

CM[i][j] += AM[i][k] \* BM[k][j];

}

}

}

int z = CM[0][0];

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

{

for (int j = 0; j < n - 1; j++)

{

if (z > CM[i][j])

{

z = CM[i][j];

}

}

}

cout<<z<<endl;

cout<<"Func2 finished."<<endl;

}//GoFunc2

// \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

//3.11 D = SORT(A - M) \* TRANS(MC)

void GoFunc3()

{

cout<<"Func3 started"<<endl;

int A[n];

int M[n];

int C[n];

int D[n];

VectorInput(A);

VectorInput(M);

int CM[n][n];

MatrixInput(CM);

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

{

C[i] = A[i] - M[i];

}

SortVector(C);

for (int i = 1; i < n; i++)

{

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

{

int b = CM[i][j];

CM[i][j] = CM[j][i];

CM[j][i] = b;

}

}

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

{

D[i] = 0;

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

{

D[i] += C[j] \* CM[j][i];

}

}

VectorOutput(D);

cout<<"Func3 finished."<<endl;

}//GoFunc3

// \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

void main()

{

cout<<"\* - Laba5 started"<<endl;

DWORD f1id, f2id, f3id;

HANDLE F1 = CreateThread(NULL, 97000, (LPTHREAD\_START\_ROUTINE)GoFunc1, NULL, CREATE\_SUSPENDED, &f1id);

HANDLE F2 = CreateThread(NULL, 588001000, (LPTHREAD\_START\_ROUTINE)GoFunc2, NULL, CREATE\_SUSPENDED, &f2id);

HANDLE F3 = CreateThread(NULL, 588065000, (LPTHREAD\_START\_ROUTINE)GoFunc3, NULL, CREATE\_SUSPENDED, &f3id);

SetThreadPriority(F1, THREAD\_PRIORITY\_HIGHEST);

SetThreadPriority(F2, THREAD\_PRIORITY\_NORMAL);

SetThreadPriority(F3, THREAD\_PRIORITY\_LOWEST);

ResumeThread(F1);

ResumeThread(F2);

ResumeThread(F3);

WaitForSingleObject(F1, INFINITE);

WaitForSingleObject(F2, INFINITE);

WaitForSingleObject(F3, INFINITE);

cout<<"\* - Laba5 finished."<<endl;

getchar();

}