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#include <iostream>
using namespace std;

void enterData(int firstMatrix[][10], int secondMatrix[][10], int rowFirst, int columnFirst, int rowSecond,
int columnSecond);
void multiplyMatrices(int firstMatrix[][10], int secondMatrix[][10], int multResult[][10], int rowFirst,
int columnFirst, int rowSecond, int columnSecond);
void display(int mult[][10], int rowFirst, int columnSecond);

int main()
{
    int firstMatrix[10][10], secondMatrix[10][10], mult[10][10], rowFirst, columnFirst, rowSecond,
columnSecond, i, j, k;

    cout << "Enter rows and column for first matrix: ";
    cin >> rowFirst >> columnFirst;

    cout << "Enter rows and column for second matrix: ";
    cin >> rowSecond >> columnSecond;

    // If colum of first matrix in not equal to row of second matrix, asking user to enter the size
of matrix again.
    while (columnFirst != rowSecond)
    {
        cout << "Error! column of first matrix not equal to row of second." << endl;
        cout << "Enter rows and column for first matrix: ";
        cin >> rowFirst >> columnFirst;
        cout << "Enter rows and column for second matrix: ";
        cin >> rowSecond >> columnSecond;
    }

    // Function to take matrices data
    enterData(firstMatrix, secondMatrix, rowFirst, columnFirst, rowSecond, columnSecond);

    // Function to multiply two matrices.
    multiplyMatrices(firstMatrix, secondMatrix, mult, rowFirst, columnFirst, rowSecond, columnSecond);

    // Function to display resultant matrix after multiplication.
    display(mult, rowFirst, columnSecond);

    return 0;
}

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void enterData(int firstMatrix[][10], int secondMatrix[][10], int rowFirst, int columnFirst, int rowSecond,
int columnSecond)
{
    int i, j;
    cout << endl << "Enter elements of matrix 1:" << endl;
    for(i = 0; i < rowFirst; ++i)
    {
        for(j = 0; j < columnFirst; ++j)
        {
            cout << "Enter elements a"<< i + 1 << j + 1 << ": ";
            cin >> firstMatrix[i][j];
        }
    }

    cout << endl << "Enter elements of matrix 2:" << endl;
    for(i = 0; i < rowSecond; ++i)
    {
        for(j = 0; j < columnSecond; ++j)
        {
            cout << "Enter elements b" << i + 1 << j + 1 << ": ";
            cin >> secondMatrix[i][j];
        }
    }
}

void multiplyMatrices(int firstMatrix[][10], int secondMatrix[][10], int mult[][10], int rowFirst, int
columnFirst, int rowSecond, int columnSecond)
{
    int i, j, k;

    // Initializing elements of matrix mult to 0.
    for(i = 0; i < rowFirst; ++i)
    {
        for(j = 0; j < columnSecond; ++j)
        {
            mult[i][j] = 0;
        }
    }

    // Multiplying matrix firstMatrix and secondMatrix and storing in array mult.
    for(i = 0; i < rowFirst; ++i)

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        {
            for(j = 0; j < columnSecond; ++j)
            {
                for(k=0; k<columnFirst; ++k)
                {
                    mult[i][j] += firstMatrix[i][k] * secondMatrix[k][j];
                }
            }
        }
    }

void display(int mult[][10], int rowFirst, int columnSecond)
{
    int i, j;

    cout << "Output Matrix:" << endl;
    for(i = 0; i < rowFirst; ++i)
    {
        for(j = 0; j < columnSecond; ++j)
        {
            cout << mult[i][j] << " ";
            if(j == columnSecond - 1)
                cout << endl << endl;
        }
    }
}

```