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CS-114 Fundamentals of Programming (2+1)

DE-41 EE Semester 1

Fall 2019

**Assignment No 2**

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| **Submitted by** | **Roll No** |
| Ayesha Javaid | 285151 |
| Syndicate A |  |

Instructor In-charge: Dr. Saad Rehman

DEPARTMENT OF COMPUTER & SOFTWARE ENGINEERING

College of Electrical and Mechanical Engineering (CEME)

National University of Sciences and Technology (NUST)

Question:

matrix multiplication of any order:

code:

#include<iostream>

using namespace std;

int main()

{

int m1 = 0, n1 = 0;

int m2 = 0, n2 = 0;

int\*\* multiply;

int\*\* matrix1;

int\*\* matrix2;

cout << "Enter the number of rows of matrix 1: ";

cin >> m1;

cout << "Enter the number of columns of matrix 1: ";

cin >> n1;

cout << "Enter the number of rows of matrix 2: ";

cin >> m2;

cout << "Enter the number of columns of matrix 2: ";

cin >> n2;

cout << endl;

while (n1 != m2)

{

cout << "Matrix multiplication not possible." << endl << endl;

cout << "Enter the number of columns of matrix 1: ";

cin >> n1;

cout << "Enter the number of rows of matrix 2: ";

cin >> m2;

}

matrix1 = new int\*[m1];

for (int i = 0; i < m1; i++)

{

matrix1[i] = new int[n1];

}

matrix2 = new int\*[m2];

for (int i = 0; i < m2; i++)

{

matrix2[i] = new int[n2];

}

multiply = new int\*[m1];

for (int i = 0; i < m1; i++)

{

multiply[i] = new int[n2];

}

cout << "Enter elements of matric 1: " << endl;

for (int i = 0; i < m1; i++)

{

for (int j = 0; j < n1; j++)

{

cin >> matrix1[i][j];

}

}

cout << "Enter elements of matric 2: " << endl;

for (int i = 0; i < m2; i++)

{

for (int j = 0; j < n2;j++)

{

cin >> matrix2[i][j];

}

}

for (int i = 0; i < m1; i++)

{

for (int j = 0; j < n2;j++)

{

multiply[i][j] = 0;

}

}

for (int i = 0; i < m1; i++)

{

for (int j = 0; j < n2;j++)

{

for (int k = 0;k < n1;k++)

{

multiply[i][j] += matrix1[i][k] \* matrix2[k][j];

}

}

}

cout << "Matrix 1 is: " << endl;

for (int i = 0; i < m1;i++)

{

for (int j = 0; j < n1;j++)

{

cout << matrix1[i][j] << " ";

}

cout << endl;

}

cout << "Matrix 2 is: " << endl;

for (int i = 0; i < m2;i++)

{

for (int j = 0; j < n2;j++)

{

cout << matrix2[i][j] << " ";

}

cout << endl;

}

cout << "Multiplication is: " << endl;

for (int i = 0; i < m1;i++)

{

for (int j = 0; j < n2;j++)

{

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

}

cout << endl;

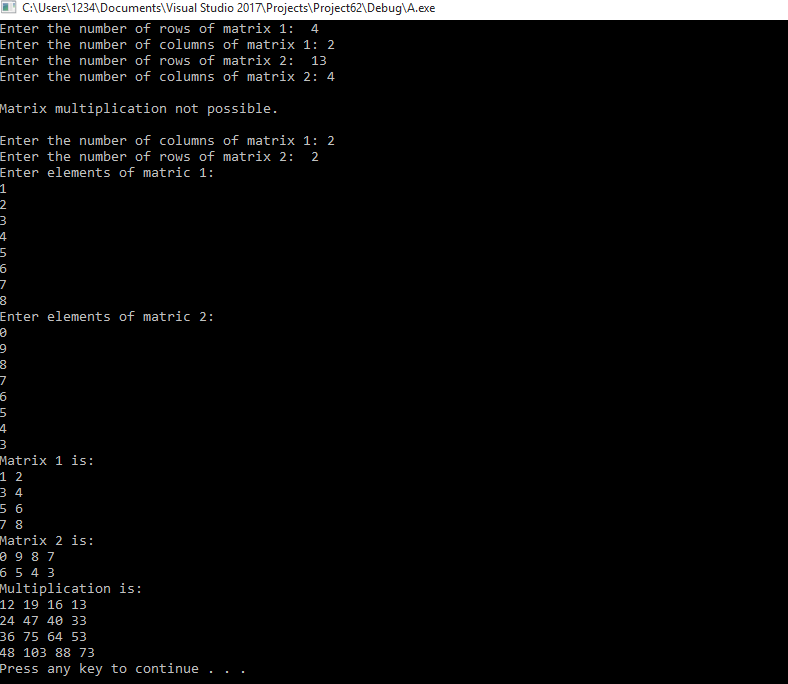
}

system("pause");

return 0;

}

**Output:**

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