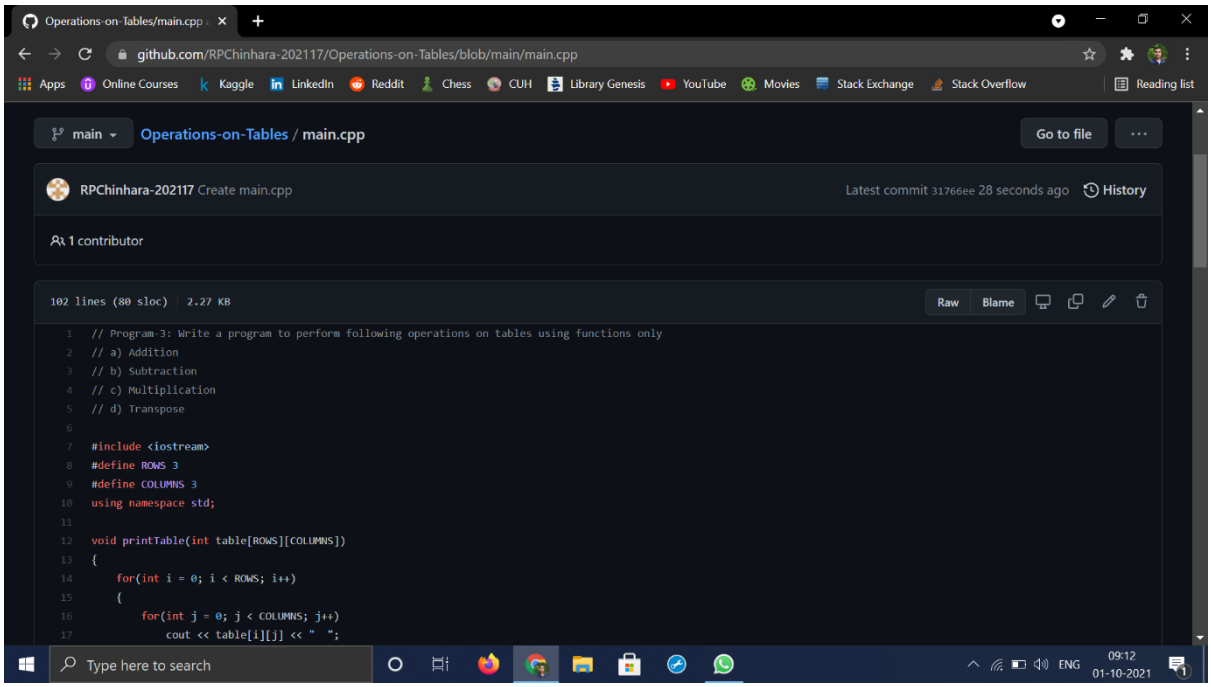
OPERATIONS ON TABLES

Addition, Subtraction, Multiplication and Transpose

OCTOBER 1, 2021

https://github.com/RPChinhara-202117/Operations-on-Tables.git

Code:


Operations-on-Tables/main.cpp
github.com/RPChinhara-202117/Operations-on-Tables/blob/main/main.cpp
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main
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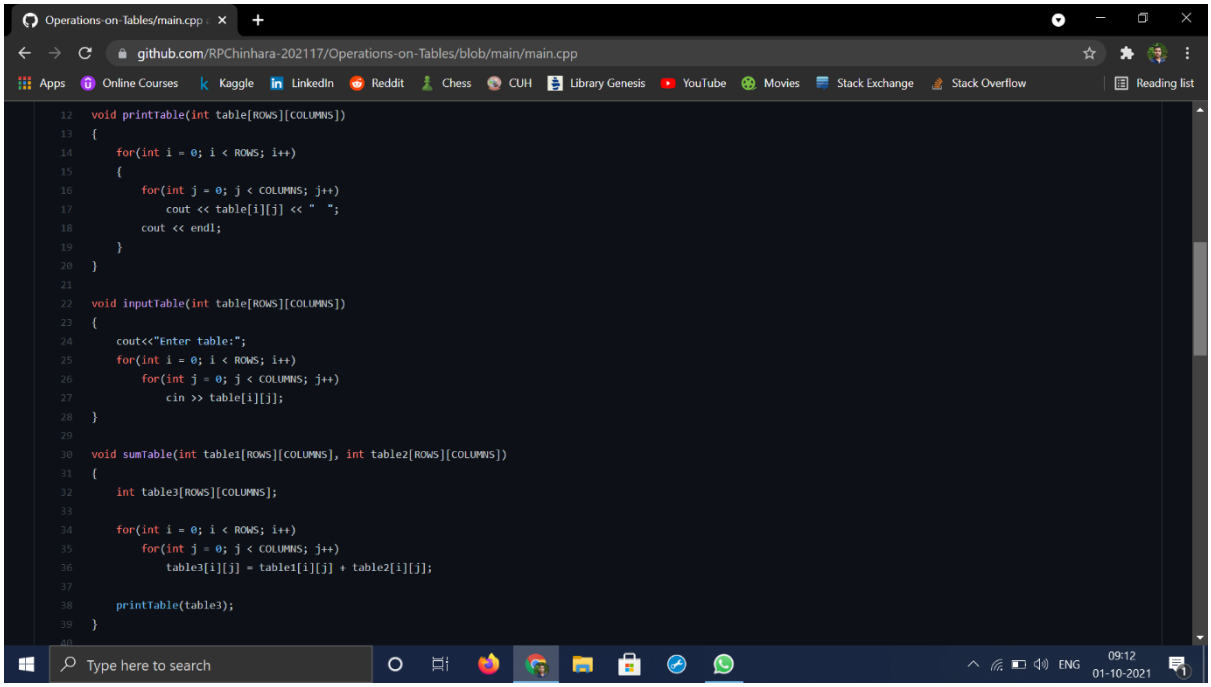
Go to file
RPChinhara-202117 Create main.cpp
Latest commit 31766ee 28 seconds ago
History
1 contributor
102 lines (80 sloc) 2.27 KB
Raw
Blame
// Program-3: Write a program to perform following operations on tables using functions only
// a) Addition
// b) Subtraction
// c) Multiplication
// d) Transpose
#include <iostream>
#define ROWS 3
#define COLUMNS 3
using namespace std;
void printTable(int table[ROWS][COLUMNS])
{
for(int i = 0; i < ROWS; i++)
{
for(int j = 0; j < COLUMNS; j++)
cout << table[i][j] << " ";
Type here to search
ENG
09:12
01-10-2021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void printTable(int table[ROWS][COLUMNS])
{
for(int i = 0; i < ROWS; i++)
{
for(int j = 0; j < COLUMNS; j++)
cout << table[i][j] << " ";
cout << endl;
}
}
void inputTable(int table[ROWS][COLUMNS])
{
cout<<"Enter table:";
for(int i = 0; i < ROWS; i++)
for(int j = 0; j < COLUMNS; j++)
cin >> table[i][j];
}
void sumTable(int table1[ROWS][COLUMNS], int table2[ROWS][COLUMNS])
{
int table3[ROWS][COLUMNS];
for(int i = 0; i < ROWS; i++)
for(int j = 0; j < COLUMNS; j++)
table3[i][j] = table1[i][j] + table2[i][j];
printTable(table3);
}
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ENG
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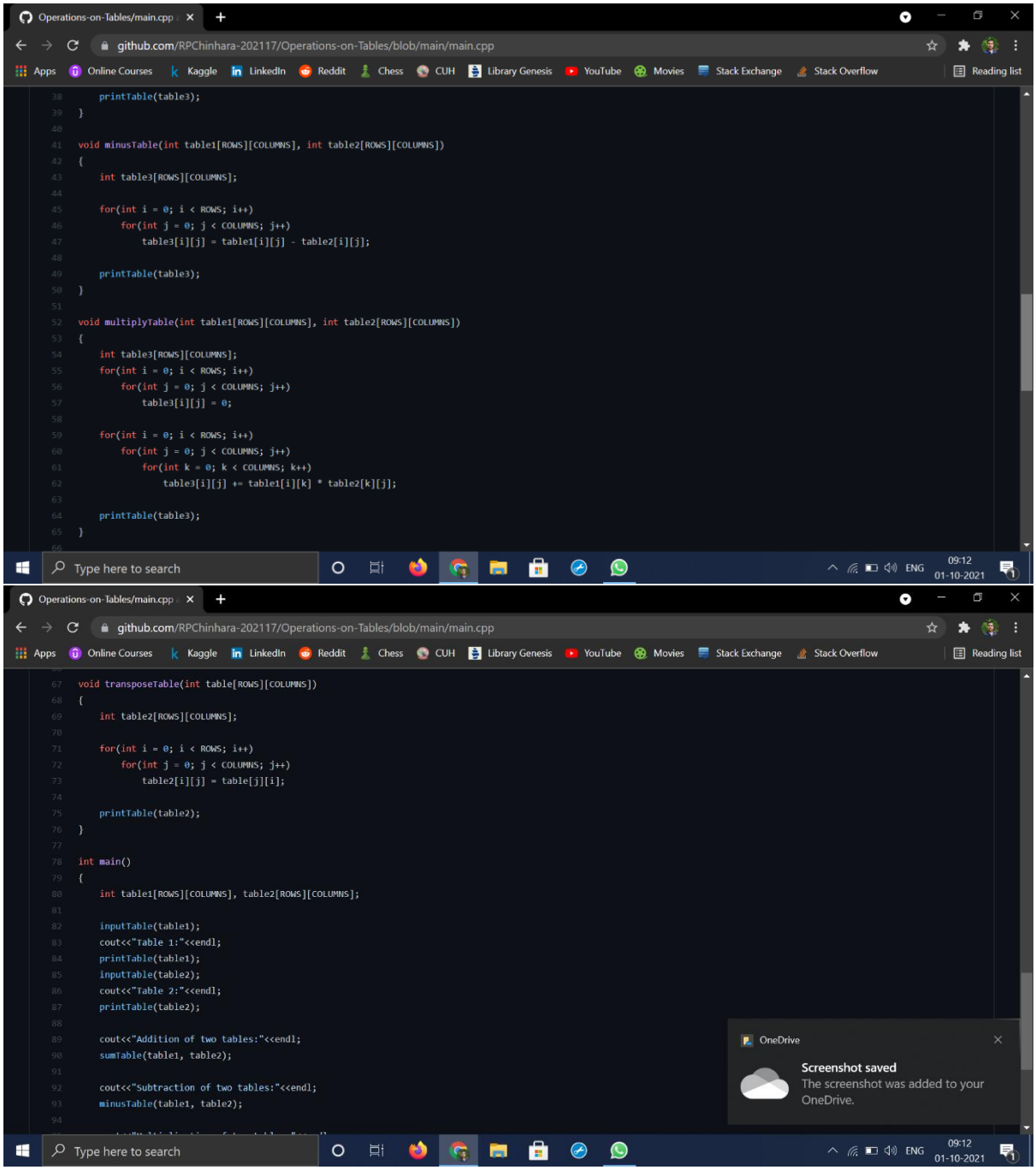
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printTable(table3);
}
void minusTable(int table1[ROWS][COLUMNS], int table2[ROWS][COLUMNS])
{
int table3[ROWS][COLUMNS];
for(int i = 0; i < ROWS; i++)
for(int j = 0; j < COLUMNS; j++)
table3[i][j] = table1[i][j] - table2[i][j];
printTable(table3);
}
void multiplyTable(int table1[ROWS][COLUMNS], int table2[ROWS][COLUMNS])
{
int table3[ROWS][COLUMNS];
for(int i = 0; i < ROWS; i++)
for(int j = 0; j < COLUMNS; j++)
table3[i][j] = 0;
for(int i = 0; i < ROWS; i++)
for(int j = 0; j < COLUMNS; j++)
for(int k = 0; k < COLUMNS; k++)
table3[i][j] += table1[i][k] * table2[k][j];
printTable(table3);
}
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void transposeTable(int table[ROWS][COLUMNS])
{
int table2[ROWS][COLUMNS];
for(int i = 0; i < ROWS; i++)
for(int j = 0; j < COLUMNS; j++)
table2[i][j] = table[j][i];
printTable(table2);
}
int main()
{
int table1[ROWS][COLUMNS], table2[ROWS][COLUMNS];
inputTable(table1);
cout<<"Table 1:"<<endl;
printTable(table1);
inputTable(table2);
cout<<"Table 2:"<<endl;
printTable(table2);
cout<<"Addition of two tables:"<<endl;
sumTable(table1, table2);
cout<<"Subtraction of two tables:"<<endl;
minusTable(table1, table2);
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Screenshot saved
The screenshot was added to your OneDrive.
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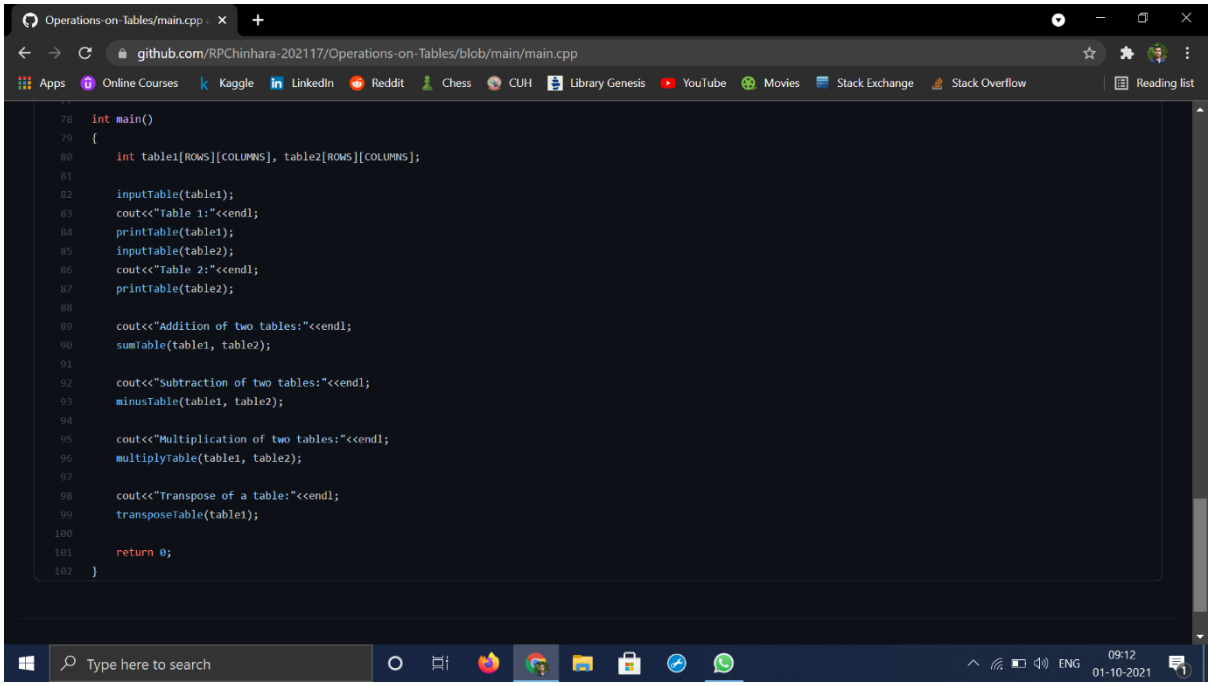
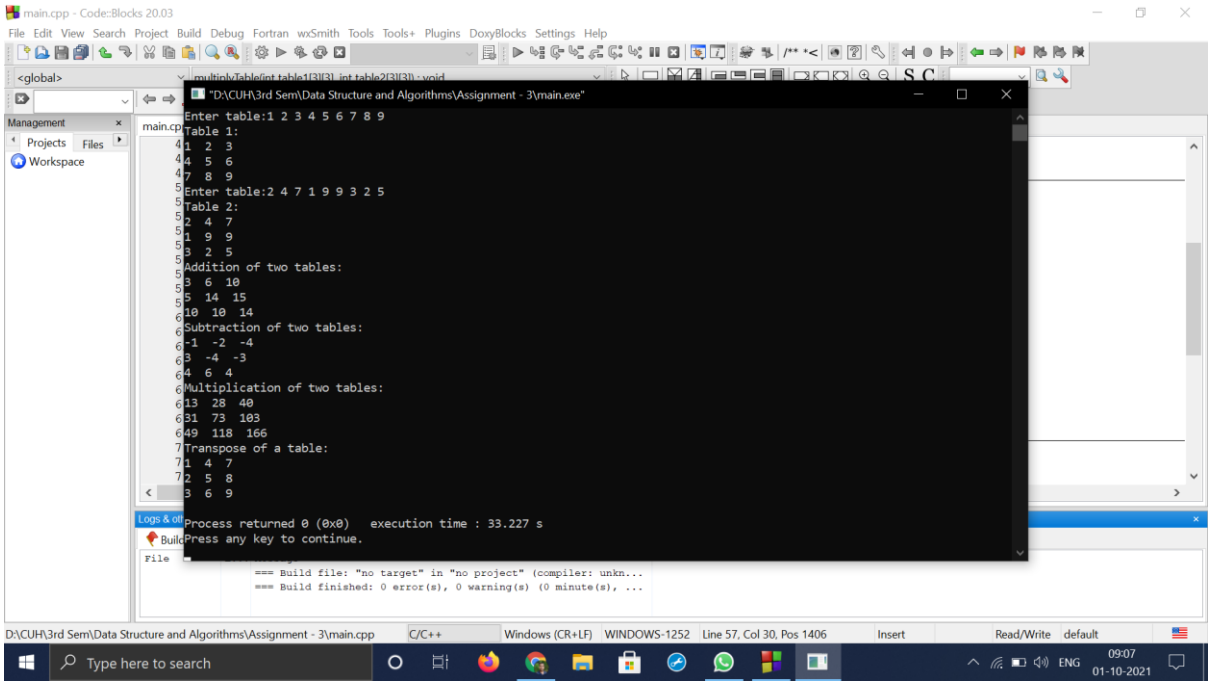


```
int main()
{
    int table1[ROWS][COLUMNS], table2[ROWS][COLUMNS];

    inputTable(table1);
    cout<<"Table 1:"<<endl;
    printTable(table1);
    inputTable(table2);
    cout<<"Table 2:"<<endl;
    printTable(table2);

    cout<<"Addition of two tables:"<<endl;
    sumTable(table1, table2);

    cout<<"Subtraction of two tables:"<<endl;
    minusTable(table1, table2);

    cout<<"Multiplication of two tables:"<<endl;
    multiplyTable(table1, table2);

    cout<<"Transpose of a table:"<<endl;
    transposeTable(table1);

    return 0;
}
```

Output Terminal:



```
"D:\CUH\3rd Sem\Data Structure and Algorithms\Assignment - 3\main.exe"
Enter table:1 2 3 4 5 6 7 8 9
Table 1:
1  2  3
4  5  6
7  8  9
Enter table:2 4 7 1 9 9 3 2 5
Table 2:
2  4  7
1  9  9
3  2  5
Addition of two tables:
3  6  10
5  14  15
10  10  14
Subtraction of two tables:
-1  -2  -4
3  -4  -3
4  6  4
Multiplication of two tables:
13  28  40
31  73  103
49  118  166
Transpose of a table:
1  4  7
2  5  8
3  6  9

Process returned 0 (0x0)   execution time : 33.227 s
Press any key to continue.
```