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# OPERATIONS ON TABLES

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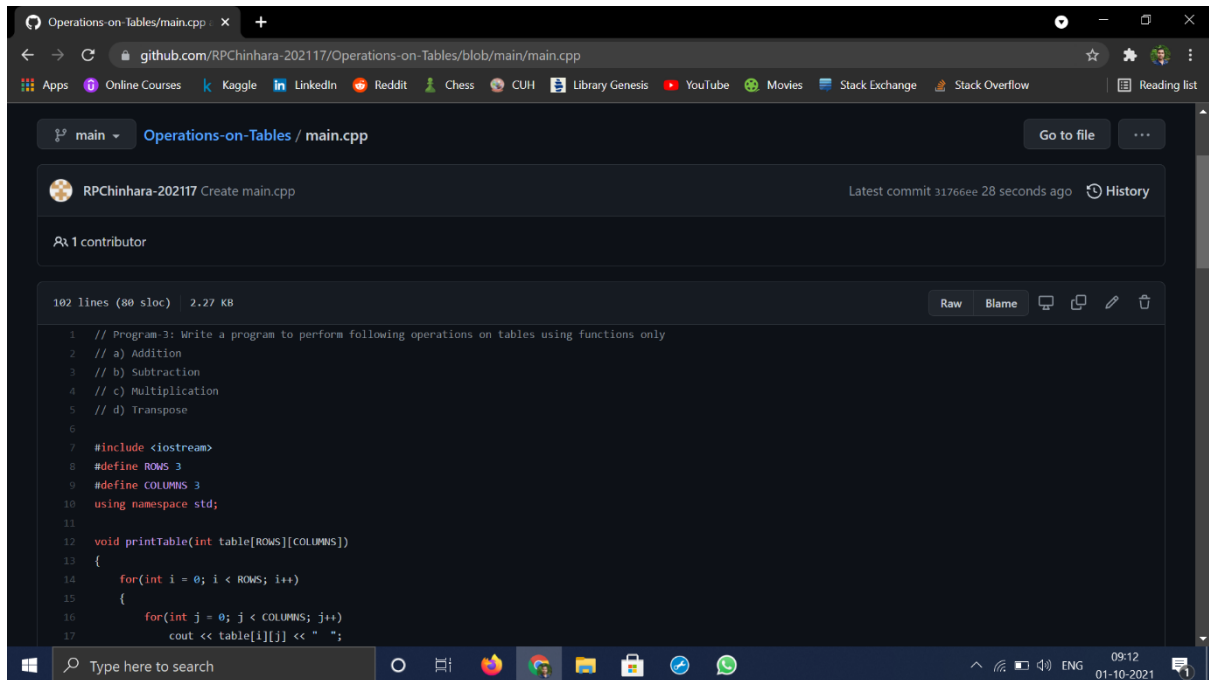
Addition, Subtraction, Multiplication and Transpose



OCTOBER 1, 2021

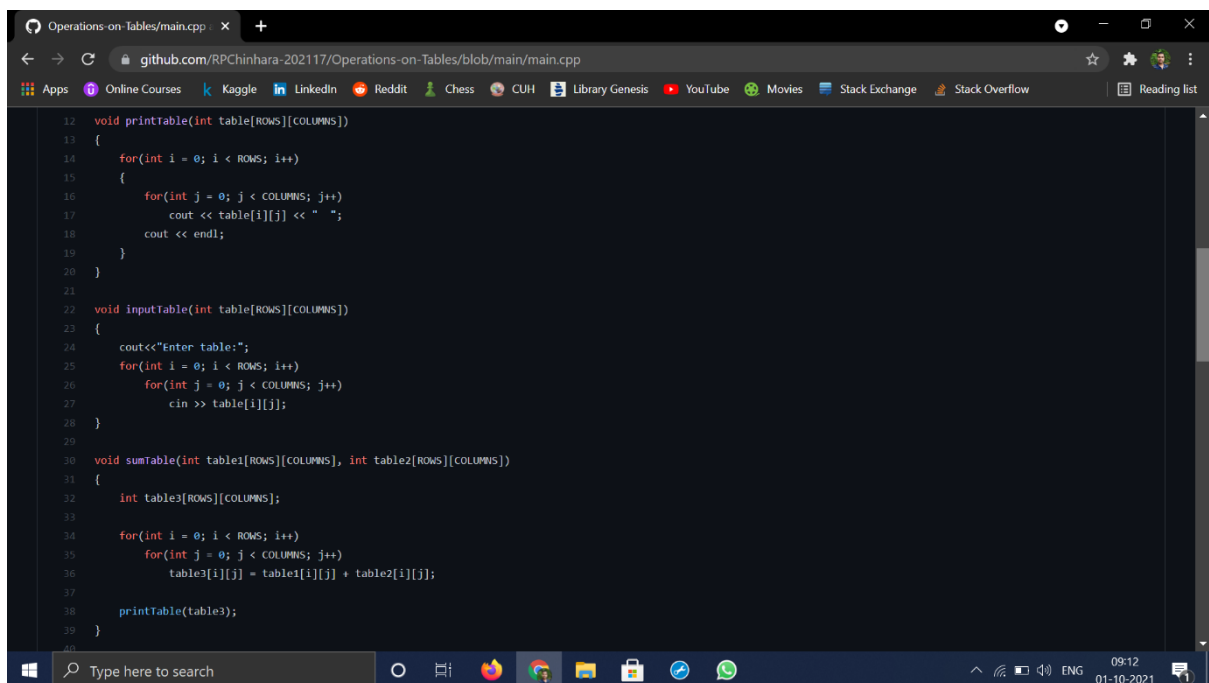
<https://github.com/RPChinhara-202117/Operations-on-Tables.git>

Code:



The screenshot shows a web browser displaying a GitHub repository page for 'Operations-on-Tables/main.cpp'. The page header includes the repository name and a 'Go to file' button. Below the header, it shows the repository owner 'RPCinhara-202117' and the file name 'main.cpp'. The file is 102 lines long, 80 sloc, and 2.27 KB. The code is displayed in a dark-themed editor with line numbers. The code includes comments for program operations, standard library headers, and function definitions for printing and inputting a table.

```
1 // Program-3: Write a program to perform following operations on tables using functions only
2 // a) Addition
3 // b) Subtraction
4 // c) Multiplication
5 // d) Transpose
6
7 #include <iostream>
8 #define ROWS 3
9 #define COLUMNS 3
10 using namespace std;
11
12 void printTable(int table[ROWS][COLUMNS])
13 {
14     for(int i = 0; i < ROWS; i++)
15     {
16         for(int j = 0; j < COLUMNS; j++)
17             cout << table[i][j] << " ";
18     }
```



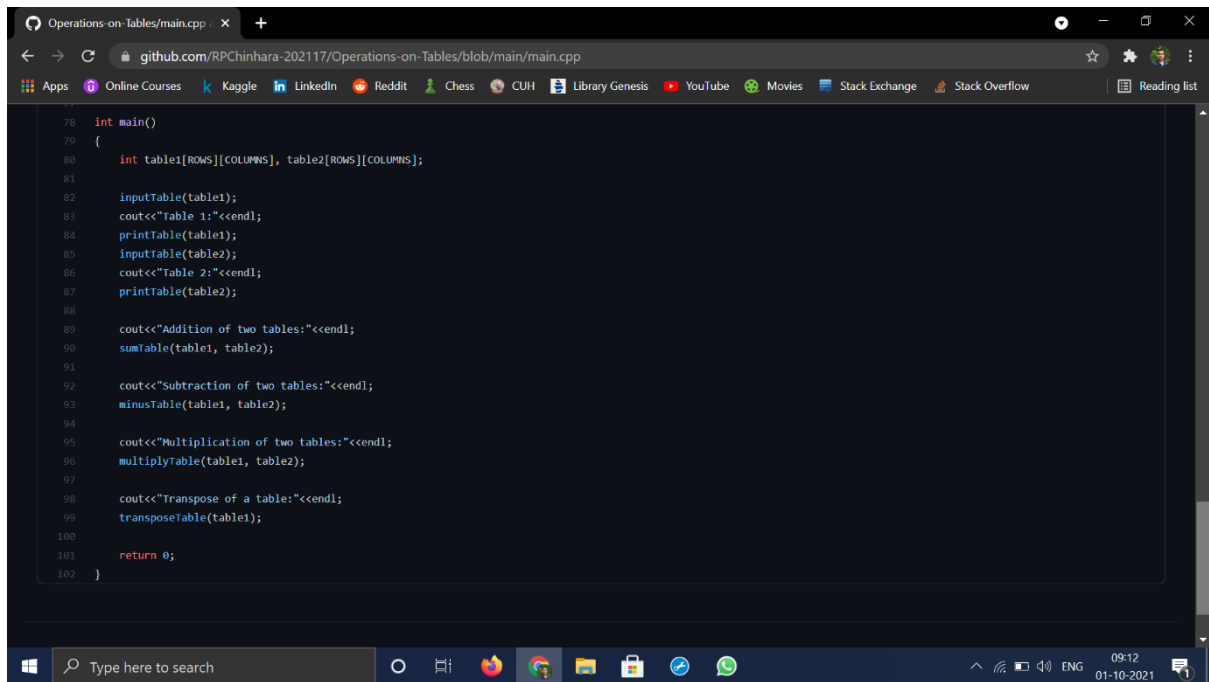
This screenshot shows the continuation of the C++ code from the previous image. It includes the implementation of the 'printTable' function, the 'inputTable' function for user input, and the 'sumTable' function for adding two tables. The code uses nested loops for iterating through the rows and columns of the tables.

```
18     cout << endl;
19 }
20 }
21
22 void inputTable(int table[ROWS][COLUMNS])
23 {
24     cout << "Enter table:";
25     for(int i = 0; i < ROWS; i++)
26     {
27         for(int j = 0; j < COLUMNS; j++)
28             cin >> table[i][j];
29     }
30
31 void sumTable(int table1[ROWS][COLUMNS], int table2[ROWS][COLUMNS])
32 {
33     int table3[ROWS][COLUMNS];
34     for(int i = 0; i < ROWS; i++)
35     {
36         for(int j = 0; j < COLUMNS; j++)
37             table3[i][j] = table1[i][j] + table2[i][j];
38     }
39     printTable(table3);
40 }
```

```
Operations-on-Tables/main.cpp × +
github.com/RPChinhara-202117/Operations-on-Tables/blob/main/main.cpp
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38     printTable(table3);
39 }
40
41 void minusTable(int table1[ROWS][COLUMNS], int table2[ROWS][COLUMNS])
42 {
43     int table3[ROWS][COLUMNS];
44
45     for(int i = 0; i < ROWS; i++)
46         for(int j = 0; j < COLUMNS; j++)
47             table3[i][j] = table1[i][j] - table2[i][j];
48
49     printTable(table3);
50 }
51
52 void multiplyTable(int table1[ROWS][COLUMNS], int table2[ROWS][COLUMNS])
53 {
54     int table3[ROWS][COLUMNS];
55     for(int i = 0; i < ROWS; i++)
56         for(int j = 0; j < COLUMNS; j++)
57             table3[i][j] = 0;
58
59     for(int i = 0; i < ROWS; i++)
60         for(int j = 0; j < COLUMNS; j++)
61             for(int k = 0; k < COLUMNS; k++)
62                 table3[i][j] += table1[i][k] * table2[k][j];
63
64     printTable(table3);
65 }
66
67 void transposeTable(int table[ROWS][COLUMNS])
68 {
69     int table2[ROWS][COLUMNS];
70
71     for(int i = 0; i < ROWS; i++)
72         for(int j = 0; j < COLUMNS; j++)
73             table2[i][j] = table[j][i];
74
75     printTable(table2);
76 }
77
78 int main()
79 {
80     int table1[ROWS][COLUMNS], table2[ROWS][COLUMNS];
81
82     inputTable(table1);
83     cout<<"Table 1:"<<endl;
84     printTable(table1);
85     inputTable(table2);
86     cout<<"Table 2:"<<endl;
87     printTable(table2);
88
89     cout<<"Addition of two tables:"<<endl;
90     sumTable(table1, table2);
91
92     cout<<"Subtraction of two tables:"<<endl;
93     minusTable(table1, table2);
94
95     return 0;
96 }
```

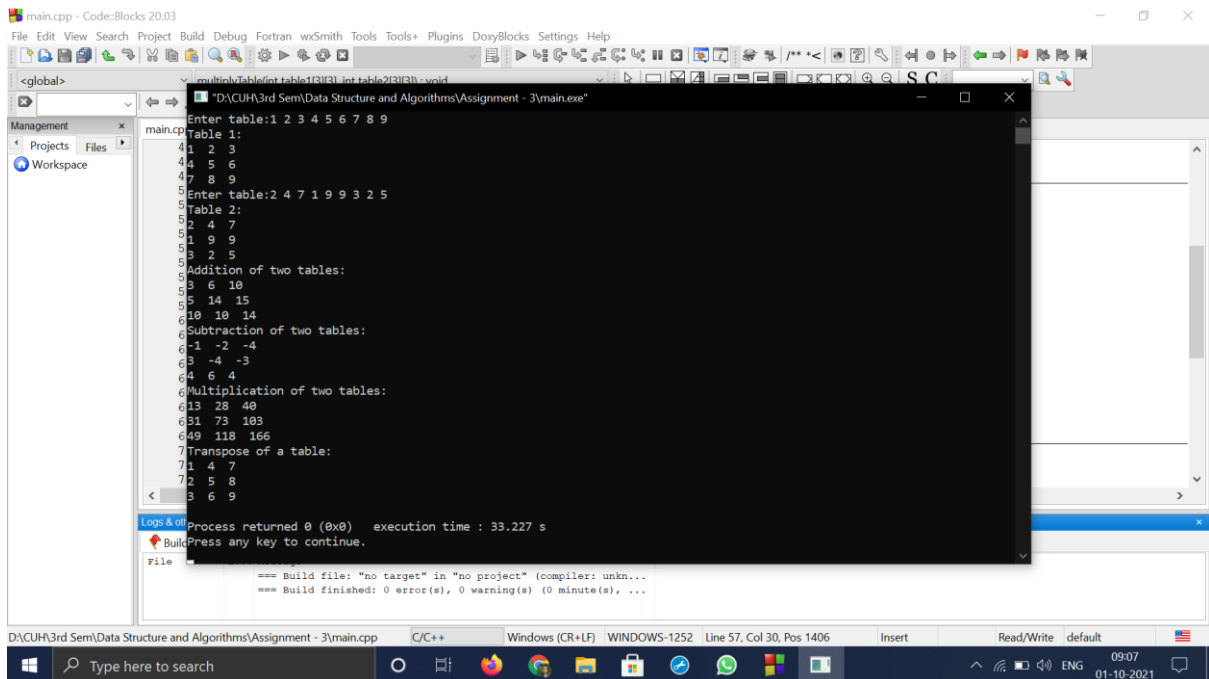
OneDrive  
Screenshot saved  
The screenshot was added to your OneDrive.



The screenshot shows a web browser window displaying a GitHub repository page for 'Operations-on-Tables/main.cpp'. The page is viewed on a mobile device, as indicated by the browser's address bar and the presence of a 'Reading list' button. The code is written in C++ and is displayed in a dark-themed editor. The code defines a main function that takes two tables as input and performs various operations on them, including addition, subtraction, multiplication, and transposition. The code is as follows:

```
78 int main()
79 {
80     int table1[ROWS][COLUMNS], table2[ROWS][COLUMNS];
81
82     inputTable(table1);
83     cout<<"Table 1:"<<endl;
84     printTable(table1);
85     inputTable(table2);
86     cout<<"Table 2:"<<endl;
87     printTable(table2);
88
89     cout<<"Addition of two tables:"<<endl;
90     sumTable(table1, table2);
91
92     cout<<"Subtraction of two tables:"<<endl;
93     minusTable(table1, table2);
94
95     cout<<"Multiplication of two tables:"<<endl;
96     multiplyTable(table1, table2);
97
98     cout<<"Transpose of a table:"<<endl;
99     transposeTable(table1);
100
101     return 0;
102 }
```

Output Terminal:



The screenshot shows the Code::Blocks IDE with the 'Operations-on-Tables' program running. The output window displays the following text:

```
Enter table:1 2 3 4 5 6 7 8 9
Table 1:
41 2 3
44 5 6
47 8 9
5
Enter table:2 4 7 1 9 9 3 2 5
Table 2:
52 4 7
51 9 9
53 2 5
5
Addition of two tables:
56 6 10
55 14 15
510 10 14
5
Subtraction of two tables:
61 -2 -4
63 -4 -3
64 6 4
6
Multiplication of two tables:
613 28 40
631 73 103
649 118 166
7
Transpose of a table:
71 4 7
72 5 8
3 6 9
Process returned 0 (0x0) execution time : 33.227 s
Press any key to continue.
```