Matrix Addition by Multidimensional Array

```
1  // Matrix Addition By Multidimensional Array Ifk
2
3  #include<iostream>
4
5  using namespace std;
6
7  int main()
8  {
9      int row = 2;
10     int col = 3;
11
12     double A[row][col];
13
14     // =======================================================
15     // MATRIX A
16     // =======================================================
17
18     // Get A from user
19
20     cout << "Enter matrix A : " << endl;
21
22     for(int i = 0; i < row; i++)
23     {
24         for(int j = 0; j < col; j++)
25         {
26             cout << "A[" << i << "][" << j << "] : \n";
27             cin >> A[i][j];
28         }
29         cout << endl;
30     }
31
32     // Print A
33
34     cout << "Matrix A" << endl;
35
36     for(int i = 0; i < row; i++)
37     {
38         for(int j = 0; j < col; j++)
39         {
40             cout << A[i][j] << " ";
41         }
42         cout << endl;
43     }
44
45     cout << endl;
46
47     // =======================================================
48     // MATRIX B
49     // =======================================================
50
51     double B[row][col];
52
53     // Get B from user
```

```
54
55      cout << "Enter matrix B : " << endl;
56
57      for(int i = 0; i < row; i++)
58      {
59          for(int j = 0; j < col; j++)
60          {
61              cout << "B[" << i << "][" << j << "] : \n";
62              cin >> B[i][j];
63          }
64          cout << endl;
65      }
66
67      // Print B
68
69      cout << "Matrix B" << endl;
70
71      for(int i = 0; i < row; i++)
72      {
73          for(int j = 0; j < col; j++)
74          {
75              cout << B[i][j] << " ";
76          }
77          cout << endl;
78      }
79
80      cout << endl;
81
82      // =======================================================
83      // MATRIX C
84      // =======================================================
85
86      double C[row][col];
87
88      // Determine [C] = [A] + [B]
89
90      for(int i = 0; i < row; i++)
91      {
92          for(int j = 0; j < col; j++)
93          {
94              C[i][j] = A[i][j] + B[i][j];
95          }
96      }
97
98      // Print C
99
100     cout << "Matrix C" << endl;
101
102     for(int i = 0; i < row; i++)
103     {
104         for(int j = 0; j < col; j++)
105         {
106             cout << C[i][j] << " ";
107         }
108         cout << endl;
109     }
110
```

```
111         return 0;
112     }
```

Test Case 1

Input

```
1   4 5 6
2   2 5 -5
3
4   7 8 9
5   -10 5 6
```

Output

```
1   Enter matrix A :
2   A[0][0] :
3   A[0][1] :
4   A[0][2] :
5
6   A[1][0] :
7   A[1][1] :
8   A[1][2] :
9
10  Matrix A
11  4 5 6
12  2 5 -5
13
14  Enter matrix B :
15  B[0][0] :
16  B[0][1] :
17  B[0][2] :
18
19  B[1][0] :
20  B[1][1] :
21  B[1][2] :
22
23  Matrix B
24  7 8 9
25  -10 5 6
26
27  Matrix C
28  11 13 15
29  -8 10 1
```

Test Case 2

Input

```
1   9 -5 6
```

```
2 1 -5

2 4 9
-7 8 2
```

Output

```
Enter matrix A :
A[0][0] :
A[0][1] :
A[0][2] :

A[1][0] :
A[1][1] :
A[1][2] :

Matrix A
9 -5 6
2 1 -5

Enter matrix B :
B[0][0] :
B[0][1] :
B[0][2] :

B[1][0] :
B[1][1] :
B[1][2] :

Matrix B
2 4 9
-7 8 2

Matrix C
11 -1 15
-5 9 -3
```