☆ Matrix

WAP to overload +,- and * for matrix addition subtraction and multiplication.

Sample Input

2 2 2
3 3 3
1 1 1
1 1 1
1 1 1
1 1 1

Sample Output

Addition of two matrices
3 3 3
4 4 4
2 2 2
Subtraction of two matrices
1 1 1
2 2 2
0 0 0
Multiplication of two matrices
6 6 6
9 9 9
3 3 3

Explanation

Sample Input

First three lines are the input for first matrix
next three lines are the input for second matrix

Sample Output

Are the result of addition, subtraction and multiplication of two matrices given in sample input
each element is separated by space in each row

YOUR ANSWER

Draft saved 11:33 am Original code C++

```
#include ↔
using namespace std;
//nter your code here.
class Matrix
{
    int mat[3][3];

public:
 int i,j,k;
    Matrix()
    {
        for(i=0;i<3;i++)
        {
            for(j=0;j<3;j++)
                cin>>mat[i][j];
        }
    }
    Matrix operator+(Matrix c)
    {
        Matrix t;
        for(i=0;i<3;i++)
        {
            for(j=0;j<3;j++)
                t.mat[i][j]=mat[i][j]+c.mat[i][j];
        }
        return t;
    }
    Matrix operator-(Matrix c)
    {
        Matrix t;
        for(i=0;i<3;i++)
        {
```

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to test end

```
        return t;
    }
    Matrix operator*(Matrix c)
    {
        Matrix t;
   for(i = 0; i < 3; i++)
        for(j = 0; j < 3; j++)
        {
            t.mat[i][j]=0;
        }
    for(i = 0; i < 3; i++)
        for(j = 0; j < 3; j++)
            for(k = 0; k < 3; k++)
            {
                t.mat[i][j] += mat[i][k] * c.mat[k][j];
            }
```

```
52          return t;
53      }
54      void Show()
55      {
56          cout<<"\n";
57          int i,j;
58          for(i=0;i<3;i++)
59          {
60          for(j=0;j<3;j++)
61              cout<<mat[i][j]<<" ";
62            if(i<2)
63          cout<<"\n";
64          }
65      }
66  };
```

```
67
68  int main() {
69     Matrix M1,M2,M3;
70      M3=M1+M2;
71      cout<<"Addition of two matrices";
72      M3.Show();
73      M3=M1-M2;
74      cout<<"\nSubtraction of two matrices";
75      M3.Show();
76      M3=M1*M2;
77      cout<<"\nMultiplication of two matrices";
78      M3.Show();
79      return 0;
80  }
```

Line: 44 Col: 15

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Download sample test cases *The input/output files have Unix line endings. Do not use Notepad to edit them on windows.*

Compiled successfully. All available test cases passed!

Test Case #1: ✔

Test Case #2: ✔

Testcase 1: *Success*

Input [Download]

```
2 2 2
3 3 3
1 1 1
1 1 1
1 1 1
1 1 1
```

Your Output

```
Addition of two matrices
3 3 3
4 4 4
2 2 2
Subtraction of two matrices
1 1 1
2 2 2
0 0 0
Multiplication of two matrices
6 6 6
9 9 9
3 3 3
```

Expected Output [Download]

```
Addition of two matrices
3 3 3
4 4 4
2 2 2
Subtraction of two matrices
1 1 1
2 2 2
0 0 0
Multiplication of two matrices
6 6 6
```

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to test end

Testcase 2: *Success*

Your Output

```
Output hidden
```