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## Experiment No.- 2 *Matrix operations:- Addition, Subtraction, Multiplication, Transepose, Inverse.*

```
clc;clear all;close all;

disp('*****')
disp('*****      OUTPUT      *****')
disp('*****')
M1 = [1,2,13;14,5,6;7,8,56];
disp('First matrix is "M1"')%disp is used to diplay strings and values
disp(M1)
disp('')
M2 = [11 102 3;14 5 36;7 88 9];
disp('First matrix is "M2"')%disp is used to diplay strings and values
disp(M2)
disp('')
%Addition
add_M1_M2 = M1+M2;
disp('Addition of matrix M1 and M2 is')
disp(add_M1_M2)
%Subtraction
sub_M1_M2 = M1-M2;
disp('Subtraction of matrix M1 and M2 is')
disp(sub_M1_M2)
% Matrix Multiplication
Mat_mul = M1*M2
disp('Matrix Multiplication of matrix M1 and M2 is')
disp(Mat_mul)
% Element-wise Matrix Multiplication
Ele_mul = M1.*M2
disp('Element Wise multiplication ofmatrix M1 and M2 is')
disp(Ele_mul)

%Inverse
disp('Inverse of M1 ')
disp(inv(M1))

disp('Inverse of M2 ')
disp(inv(M2))

disp('Transpose of M1 ')
disp(transpose(M1))

disp('Transpose of M2 ')
disp(M2')

*****
*****      OUTPUT      *****
```

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First matrix is "M1"

1	2	13
14	5	6
7	8	56

First matrix is "M2"

11	102	3
14	5	36
7	88	9

Addition of matrix M1 and M2 is

12	104	16
28	10	42
14	96	65

Subtraction of matrix M1 and M2 is

-10	-100	10
0	0	-30
0	-80	47

Mat\_mul =

130	1256	192
266	1981	276
581	5682	813

Matrix Multiplication of matrix M1 and M2 is

130	1256	192
266	1981	276
581	5682	813

Ele\_mul =

11	204	39
196	25	216
49	704	504

Element Wise multiplication of matrix M1 and M2 is

11	204	39
196	25	216
49	704	504

Inverse of M1

-0.9243	0.0319	0.2112
2.9562	0.1394	-0.7012
-0.3068	-0.0239	0.0916

Inverse of M2

0.1744	0.0365	-0.2042
-0.0070	-0.0044	0.0198
-0.0668	0.0142	0.0767

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*Transpose of M1*

1	14	7
2	5	8
13	6	56

*Transpose of M2*

11	14	7
102	5	88
3	36	9

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