

210 MatLab Notes for HW01

Multiplication of matrices uses " * ". A number is a 1x1 matrix, so it can be multiplied by any matrix using " * ". To print out a result, end the command with a comma or nothing.

```
1/2 *[4 3 5; 1 2 3; 34 5 5;1 1 1]*[2 1; 2 3; 4 5], [1;3]*[4 1]
```

```
ans =  
    17.0000    19.0000  
     9.0000    11.0000  
    49.0000    37.0000  
     4.0000     4.5000
```

```
ans =  
     4     1  
    12     3
```

If you don't want to print an answer, then end the line with a semicolon. For instance, I don't want to print out a 40X50 matrix below, but I do want to see the element in the 10th row and 27th column.

```
A=rand(40,50); A(10,27)
```

```
ans = 0.9662
```

".* ." is a different kind of multiplication; A .* B is valid if A and B are the same size and returns a matrix of the same size that multiplies the elements of A and B in the same position.

```
B=[2 3 4; 5 6 7], C = [-1 0 1; 2 -1 -2], B.*C
```

```
B =  
     2     3     4  
     5     6     7
```

•

```
C =  
    -1     0     1  
     2    -1    -2
```

•

```
ans =  
    -2     0     4  
    10    -6   -14
```

•

Notice BC is not defined. MatLab knows this too:

```
B*C
```

```
Error using *  
Inner matrix dimensions must agree.
```