Matlab notes for Math 210 HW #2

You can find the lu factorization of any matrix and assign the two matrices of the factorization to variables of your choosing: I am using the letters L and U.

```
[L,U]=lu([1 2 3; 4 5 6; 7 8 9]);
L, U
```

```
L =
    0.1429    1.0000         0
    0.5714    0.5000    1.0000
    1.0000         0         0
U =
    7.0000    8.0000    9.0000
         0    0.8571    1.7143
         0         0    0.0000
```

The rand(n) command generates a random n x n matrix with entries equal to numbers between 0 and 1. In your problem, the LU-factorization will produce some negative numbers, so youwill want the absolute value of an entry, use "abs".

```
A=rand(3), B=rand(3); C=A-B; C(1,1), abs(C(1,1))
```

```
A =
    0.7232    0.3839    0.9106
    0.3474    0.6273    0.8006
    0.6606    0.0216    0.7458
ans = -0.0899
ans = 0.0899
```

To find a mean of some generated values, you can use a for loop.

```
U=0;
for i=1:50
    A=rand(3);
    U=U+A(1,1);
end
    Mean = U/50
```

```
Mean = 0.4420
```