

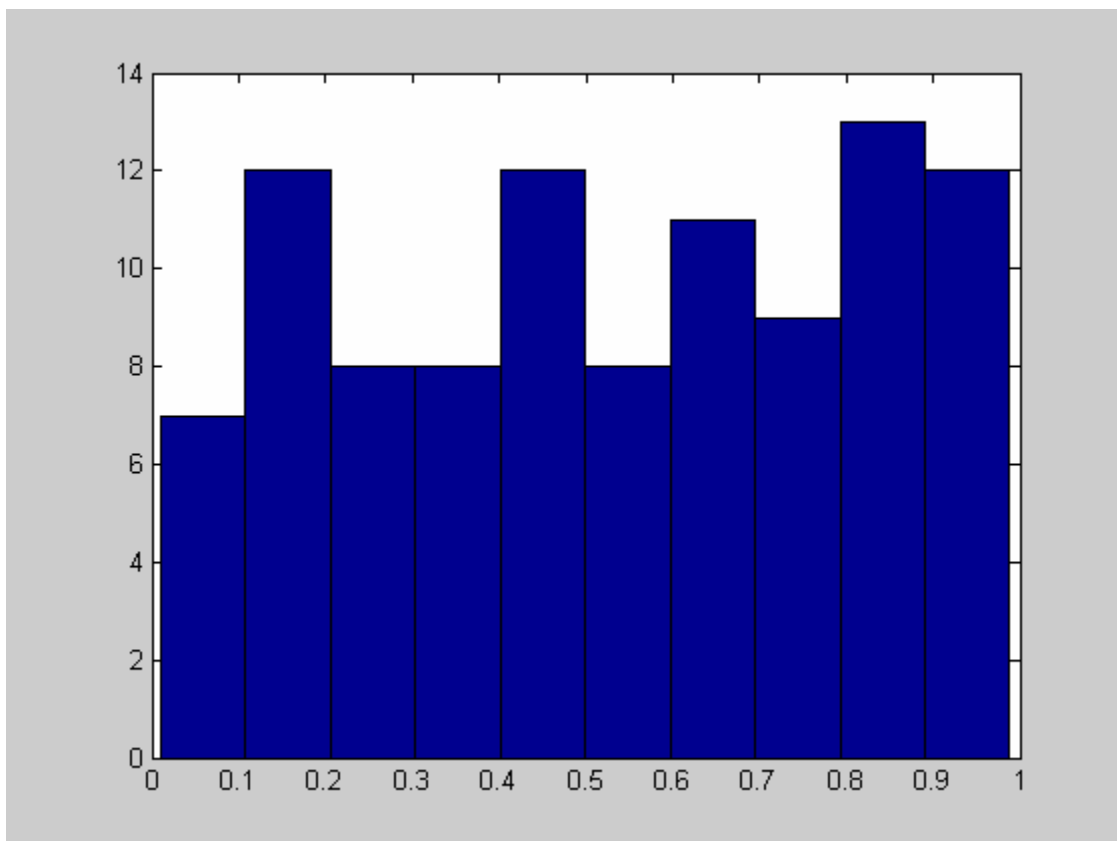
Basic Probability Matlab Functions

y = rand(1,100) ;

Will generate a vector y of 100 whose elements are uniformly distributed in the interval (0,1).

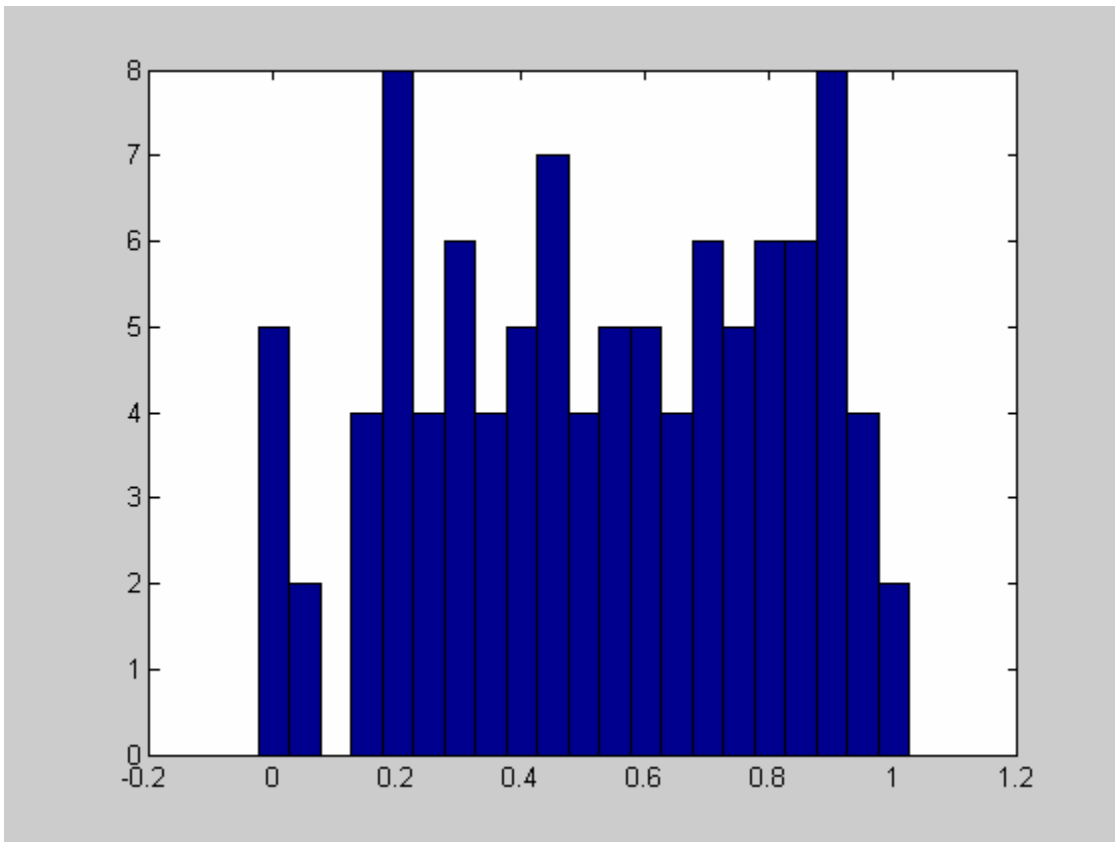
hist(y);

hist(y) bins the elements in vector y into **10** equally spaced containers
The histogram “Approximate pdf” of the random data.



we can change the width of the histogram and the numbers of the boxes by specifying it as follow:

```
x = 0:0.05:1;  
hist(y,x);
```

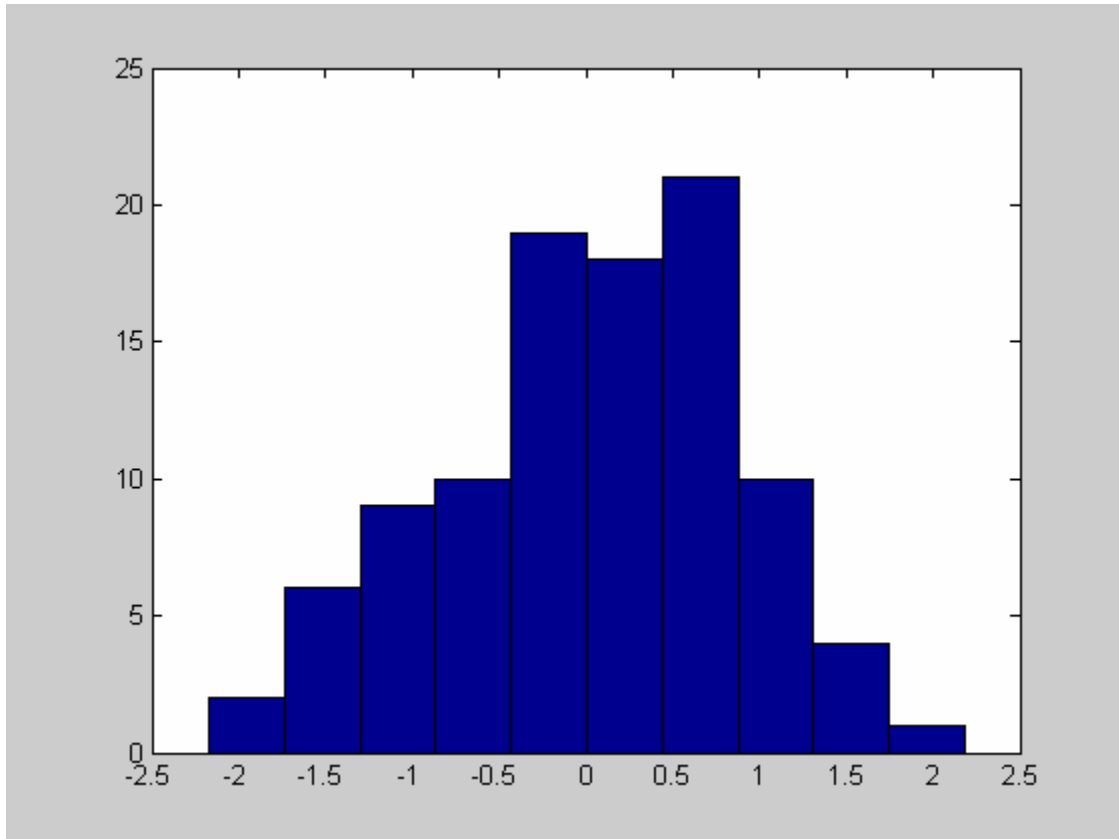


Notice the histogram approximate the pdf of the uniform distribution between (0,1).

```
y = randn(1,100) ;
```

The **randn** function generates arrays of random numbers whose elements are Gaussian distributed with mean 0, variance 1, and standard deviation 1.

```
hist(y) ;
```



mean(y);

Will calculate the mean of the data in the vector **y**

cov(y)

Will calculate the covariance of **y** with itself , which mean the variance of **y** .