Daniel Zeiler (10p)

Assignment 4.2

Binomial Distribution

As you increase or decrease the probability of a binomial distribution a few observations can be made. If you assign the probability to 0.5 then the peak of the curve of the pdf will be located directly in the middle of the graphed region. If you lessen this probability the subsequent curve will shrink. That is, the maximum value of the curve will be proportionally closer (if you assign a probability of 0.3 then the graphs peak will be located 1/3rd of the way up the total graph). In the cumulative density function an alteration of the probability will mean a change in the rate of accumulation of density. With a probability of 0.3 you will have a quicker rate of accumulation compared to that of a probability of 0.5.

PDF:x=0:10;

y=binopdf(x,10,0.5);

plot(x,y,'+');

CDF:x=0:10;

y=binocdf(x,10,0.5);

plot(x,y,'+');

Geometric Distribution

Similarly with geometric distributions a trend becomes apparent with the manipulation of probabilities. In the probability density function of a geometric distribution when one lessens the probability the curve of the graph becomes less shallow. When increasing the probability the graph becomes shallower. In a geometric distribution cumulative distribution function another observation becomes apparent. As you increase the probability the accumulation of densities increases. As you lessen the probability the rate of accumulation also follows suit.

PDF:x=0:10;

y=geopdf(x,0.5);

plot(x,y,'+');

CDF:x=0:10;

y=geocdf(x,0.5);

plot(x,y,'+');