Victor DiLella (10p, no graphs)

CIS 2033 Matlab Assignment 4.2

 I couldn’t figure out how to import my graphs from Matlab into Microsoft Word so I’ll just have to describe what I see.

(a) Plot the probability mass function and the cumulative distribution function of a binomial distribution for a few different values of the parameter p.

How does their shapes changes as the function of p?

For small values of p, the probability mass function of a binomial distribution achieves a high peak sooner. For all of my graphs I used x values from 0 to 100. For a value of p=0.1, the graph achieves a peak around x=10, and as p is increased, the placement of the peak on the graph moves further and further to the right. With a value of p=0.9, a peak is reached around x=90.

For the cumulative distribution function, a similar result occurs. Smaller values of p cause the graph to reach its peak of 1 sooner. For p = 0.1, y is equal to 1 around x=15. For a large value such as p = 0.9, y does not equal 1 until x=90 or so.

(b) Plot the probability mass function and the cumulative distribution function of a geometric distribution for a few different values of the parameter p.

How does their shapes changes as the function of p?

The probably mass function of a geometric distribution starts at a high y value and decreases as x increases. For a small value of p, such as p = 0.1, the graph starts at around y = 0.1 and slowly decreases. At around x=50, the graph is very close to y = 0. For larger values, such as p=0.9, the y value starts at the same place of about 0.1, but decreases very fast and looks to be approaching y=0 around x=5.

The cumulative distribution function for a geometric distribution starts at y = 0 and approaches y = 1. For a small value of p = 0.1, the graph steadly increases and looks to approach y = 1 at around x = 50. For a large value of p = 0.9, the graph increases extremely quickly and looks to approach y = 1 at around x = 5.