MAT375 Project 1 – Simulation

(1) Choose a Bernoulli trial which is does **not** have p = 0.5.
   a. Examples might be rolling a 6 on a die, winning in roulette, sports stats such as batting average or free throw shooting, etc.
(2) Run two simulations:
   a. Binomial: Count the number of successes in 20 trials. Repeat this at least 1000 times, recording the result of each run. In addition, use the Binomial Distribution formula to predict the results of your simulation. Compare the predicted numbers to the actual simulation results by graphing the results together (for example, using a bar chart).
   b. Negative Binomial: Count the number of trials until 3 successes. Repeat at least 1000 times, recording the result of each run. In addition, use the Negative Binomial Distribution formula to predict the results of your simulation. Compare the predicted numbers to the actual simulation results by graphing the results together (for example, using a bar chart).
(3) Submit a paper which includes the following:
   a. The Bernoulli trial you used, and its probability. Include a reference if appropriate (eg. You looked up the probability somewhere).
   b. Indicate which software you used.
   c. Provide your graphs comparing predicted and simulation results for both distributions.

Submit to D2L dropbox by 11:59pm, Friday, March 13.