ASRM 461 Project

Due April 23rd

Simulation and Classification

In this project you will use a programming language such as Excel, R, or Python to simulate data from different distributions. Your final submission will include your code, outputs, and explanations.

Part 1 Convolutions

In this part, you will see the effect of adding two distributions together. Simulate , , and then compute their sum . Classify *Y* as an (a, b, 0) distribution and give its parameters.

Part 2 Compound Distributions

In this part, you will create a collective risk model with *N* being the number of claims and being the amount of loss. Simulate , and the sum . Compute , and compare to the theoretical values using the law of total expectation.

Part 3 Credibility Theory

For each of the three models in Part 2, determine the credibility standards with