Exam 1 Test Guide

# Overview

The test will be a mix of MC, short answer, and numerical response. Covering chapters 1-7 and the related content covered in class. Some questions will be on calculating answers, others will be theoretical.

## Resources

The exam is entirely open book. You can use whatever you’d like. There is no communication with others.

## Setup

There will be one (or more) datasets that you’ll need to use to respond to some of the questions. You **will not** need to submit code, only enter responses into Moodle.

## Major Topics

* Basic statistics.
  + Mean, median, standard deviation, variance, skew, kurtosis.
  + Calculations, usage, and meaning.
* Distributions.
  + Empirical vs. analytical. Determining if distributions fit data.
  + Calculations/use of distributions, e.g. probability of a value, cumulative probability.
  + Major distribution types.
* Correlations and Two Variable Relationships.
  + Covariance, correlation, correlation calculations (Pearson and Spearman).
  + Correlation vs causation.
* Visualizations
  + Histogram, PMF, CDF, PDF, probability plot.
  + Application and use of different graphs.