

Hypothesis Testing : CH. 9

The Principle of Hypothesis Testing
 Determination of Decision Rule
 Two-Tailed & One-Tailed Tests
 A Two-Tailed Hypothesis Test for population Mean; Large & Small Sample
 One-Tailed Tests for Population Mean; Large & Small Sample
 An Alternative Method of Hypothesis Testing; p - Value
 Type I & Type II error

EXAM # 1

Tests of variance & Analysis of Variance CH. 15
 Testing variance of a Normal Distribution; Chi-Square (Ch. 9 section 9.4 PP 344-347)
 Comparing the variance of two Normal Populations
 One-way ANOVA; The Completely Randomized design
 Two-Way ANOVA

Some Nonparametric Tests CH. 10

Simple Regression & Correlation CH. 12

Introduction
 The mechanics of straight Line
 The Basic Objective of Regression Analysis
 Ordinary Least Square (OLS); the line of best fit
 An Example of Using OLS
 Assumptions of OLS
 A Measure of Goodness-of-Fit; The Standard Error of Estimate
 Correlation Analysis
 Limitations of Regression Analysis
 Interval Estimation in Regression Analysis
 Hypothesis testing about the Population correlation Coefficient
 Test inferences about the Population Correlation Coefficient
 Analysis of Variance Revisited

EXAM # 2

Multiple Linear Regression CH. 13

The Multiple Regression Model
 Least Square Estimation
 Standard Assumptions for Multiple Regression Model
 The Gauss-Markov Theorem
 The Explanatory Power of a Multiple Regression Equation
 Confidence Intervals & Hypothesis Tests for Individual Regression Parameters

Test on Sets of Regression Parameters
Prediction

EXAM # 3

More on Regression

CH. 14

Model Building Methodology;

Model Specification, Coefficient Estimation, Verification, Interpretation &
Inference

Dummy Variables

Lagged Dependent Variables

Nonlinear Models

Specification Bias

Multicollinearity

Heteroscedasticity

Autocorrelated Errors; Durbin-watson Statistic

Inference Using Two Populations

CH. 9

Estimating the Difference between Two-Population Means

Confidence Intervals for the Difference between Two Proportions

Selecting the Proper Sample Size

Hypothesis testing Involving Two Population Large & Small Samples

A Test for the Difference between Two Proportions

Review

EXAM # 4

Homework:

Problems from the text will be recommended. The list of problems is the minimum the students should do in each section. you will need to do these to find out your understanding of the material.