INFO 7390
Advances in Data Sciences and Architecture
Assignment 2

Professor: Nik Bear Brown
Due: June 13, 2019

In this assignment you will be creating homework problem with solutions based on the worked problems in the jbstatistics videos. ONLY when a video has no example calculations can you create a conceptual question.

Q1 (5 Points)

Create a novel homework problem with solutions for a Z Test for One Mean. See the example in Z Tests for One Mean: An Example https://youtu.be/Xi33dGcZCA0

Q2 (5 Points)

Create a novel homework problem with solutions for creating a Confidence Interval. See the example Inference for One Variance: An Example of a Confidence Interval and a Hy... https://youtu.be/tsLGbpu_

Q3 (5 Points)

Create a novel homework problem with solutions for Deriving a Confidence Interval for a Variance (Assuming a Normal Distrubution). See the example Deriving a Confidence Interval for a Variance (Assuming a Normally Distr... https://youtu.be/q-cHZyOs5DQ

Q4 (5 Points)

Create a novel homework problem with solutions for Deriving a Confidence Interval for the Ratio of Two Variances. See the example Deriving a Confidence Interval for the Ratio of Two Variances https://youtu.be/dx6-_d9CQcM

Q5 (5 Points)

Create a novel homework problem with solutions for A One-Way ANOVA Example. See the example A One-Way ANOVA Example https://youtu.be/WUoVftXvjiQ

Q6 (5 Points)

Create a novel homework problem with solutions for One-Way ANOVA: LSD confidence intervals. See the example One-Way ANOVA: LSD confidence intervals https://youtu.be/kO8t_q-AXHE

Q7 (5 Points)

Create a novel homework problem with solutions for Finding the P-value in One-Way ANOVA. See the example Finding the P-value in One-Way ANOVA https://youtu.be/XdZ7BRqznSA

Q8 (5 Points)

Create a novel homework problem with solutions for example Inference for Two Means: Introduction. See the example Inference for Two Means: Introduction https://youtu.be/86ss6qOTfts

Q9 (5 Points)

Create a novel homework problem with solutions for Pooled-Variance t Tests and Confidence Intervals. See the example Pooled-Variance t Tests and Confidence Intervals: An Example https://youtu.be/Q526z1mz4Sc

Q10 (5 Points)

Create a novel homework problem with solutions for Welch (Unpooled Variance) t Tests and Confidence Intervals. See the example Welch (Unpooled Variance) t Tests and Confidence Intervals: An Example https://youtu.be/gzrmHpA54Sc

Q11 (5 Points)

Create a novel homework problem with solutions for Unpooled Variance t Tests and Confidence Intervals. See the example Pooled or Unpooled Variance t Tests and Confidence Intervals? (To Pool o... https://youtu.be/7GXnzQ2CX58

Q13 (5 Points)

Create a novel homework problem with solutions for Calculating Power and the Probability of a Type II Error. See the example Calculating Power and the Probability of a Type II Error (A One-Tailed E... https://youtu.be/BJZpx7Mdde4

Q14 (5 Points)

Create a novel homework problem with solutions for to Confidence Intervals for One Mean (Sigma Known). See the example Intro to Confidence Intervals for One Mean (Sigma Known) https://youtu.be/KG921rfbTDw

Q15 (5 Points)

Create a novel homework problem with solutions for Confidence Intervals for One Mean: Sigma Not Known (t Method). See the example Confidence Intervals for One Mean: Sigma Not Known (t Method) https://youtu.be/bFefxSE5bmo

Q16 (5 Points)

How does a t Distribution differ from a normal Distribution? See the example Introduction to the t Distribution (non-technical) https://youtu.be/Uv6nGIgZMVw

Q17 (5 Points)

Create a novel homework problem with solutions for a Conditional Probability worked problem. See the example Conditional Probability Example Problems https://youtu.be/ES9HFNDu4Bs

Q18 (5 Points)

Create a novel homework problem with solutions for Chi-square Tests of Independence. See the example Chi-square Tests of Independence (Chi-square Tests for Two-Way Tables) https://youtu.be/L1QPBGoDmT0

Q19 (5 Points)

Create a novel homework problem with solutions for demonstrating the Central Limit Theorem. See the example Introduction to the Central Limit Theorem https://youtu.be/Pujol1yC1_A

Q20 (5 Points)

Create a novel homework problem with solutions for calculating the Power of the Test. See the example Type I Errors, Type II Errors, and the Power of the Test https://youtu.be/7mE-K_w1v90