Week Three

Help Center

The Correlation Coefficient and the ANOVA table

This week we will learn methods to measure the strength of the relationship between two variables using the correlation coefficient and the coefficient of determination. Furthermore, we will learn how to compute and interpret an analysis of variance (ANOVA) table for straight line regression. The homework will involve making ANOVA tables for several regressions, performing F-tests on these regressions, and interpreting the results.

Lectures

Please click on the links below to access the video lectures for this third week:

- **The Correlation Coefficient: r**
- **The Coefficient of Determination: r^2**
- **Hypothesis Testing of r**
- **Sums of Squares**
- **Analysis of Variance: The ANOVA table**
- **The F-Test of Significance**
- **Reviewing STATA Output - Homework**

Lecture Material

Please click on the link below to download the slides of the third week

Week Three "The Correlation Coefficient and the ANOVA table"

Conversations

Please join in the conversations around regression analysis in our **community forums** area. You can ask and answer questions and discover insights and help for yourself and others as we come together to encourage each other in our exploration.

Key Terms

Below are definitions of some important terms covered this week:

- **Correlation Coefficient (r)**: Measure of the strength of the relationship between 2 random variables
- **Coefficient of Determination (r^2 / ρ_{xy}^2)**: proportion in the Y "explained by" knowledge of X
- **Fisher's Z Transformation**: Method to transform r into a statistic that is approximately normal for the purpose of hypothesis testing

Homework

Please watch the following video, **Homework Highlights from Week Two**, to review the homework from last week.

Navigate to the **Week Three Homework** page to view and download the homework for this week.

Quiz

After you've gone through the materials for this week please be sure to visit the **quizzes area** to complete this week's quiz.

Created Mon 2 Feb 2015 12:14 PM PST

Last Modified Mon 6 Apr 2015 9:25 AM PDT