Lab 4: Austin City Limits

Known as the “Live Music Capital of the World,” Austin, Texas is also home to the longest-running music series in American television history, *Austin City Limits*. This dataset includes data on a sample of musicians that performed live on the PBS television series *Austin City Limits* over the last 10 years. Data on each artist include measures of commercial popularity, such as the number of social media followers on Twitter or Facebook, and their success in winning a Grammy Music Award.

Primary Research Question

For artists age 30 or older, do female artists play different kinds of music on *Austin City Limits* than male artists?

(3/3 points)

R Tutorial Videos

Pre-Lab
Pre-Lab due Mar 15, 2016 at 18:00 UTC

Lab
Lab due Mar 15, 2016 at 18:00 UTC

Problem Set
Problem Set due Mar 15, 2016 at 18:00 UTC

▸ Week 5: Linear Functions

Check the Data

Let's begin by examining our data in R.

1. Open RStudio. Make sure you've installed the SDSFoundations package.
2. Type `library(SDSFoundations)` This will automatically load the data for the labs.
3.Type `acl <- AustinCityLimits` This will assign the data to your Workspace.
4. Look at the spreadsheet view of the data to answer the following questions.

Alternatively, you can use follow the steps in the "Importing a Data Frame" R tutorial video, and use the AustinCityLimits.csv file. (Right-click and "Save As.") Make sure to **name** the dataframe "acl" when importing.

1. Open RStudio.
2. Click on "Import Dataset" button at the top of the workspace window. Choose *"from text file."*
3. Click on the location of the AustinCityLimits.csv file you just downloaded.
4. Click on the AustinCityLimits.csv file. Then, click Upload.
5. Look at the spreadsheet view of the data to answer the following questions.

1a. How many artists are in this dataset?

116 ✔ **Answer:** 116

116

1b. How many of the first 10 artists in the dataset were Grammy winners?

4 ✔ **Answer:** 4

4

1c) What genre was played by the first female artist in the dataset who was over 60 years of age?

Jazz/Blues ✔ **Answer:** Jazz/Blues

Click here for a video explanation of how to answer this question.

You have used 1 of 1 submissions

(4/4 points)

Check the Variables of Interest

Let's find the variables we need to answer the question.

2a. Which variable tells us the kind of music played by each artist? The variable name in the dataset is:

Genre ✔ **Answer:** Genre

2b. What type of variable is this?

Categorical ✔ **Answer:** Categorical

2c. Which variable tells us whether the lead singer or performer is male or not?

Gender ✔ **Answer:** Gender

2d. What type of variable is this?

Categorical ✔ **Answer:** Categorical

Click here for a video explanation of how to answer this question.

You have used 1 of 1 submissions

(2/2 points)

Reflect on the Method

Which method should we be using for this analysis and why?

3. We will generate a **contingency table** of genre and gender to help us with this analysis. Why?

- (•) The table will show us how many male and female artists played each type of music. ✔
- ( ) The table will show us the theoretical probability of each type of

music appearing on ACL Live.

- The table will help us identify which cases should be deleted.

4. We will compare marginal and **conditional probabilities** to determine if female and male artists tend to play different kinds of music. Why?

- We want to determine whether female artists prefer jazz.
- We want to describe the distribution of a single categorical variable.
- We want to determine if two categorical variables are independent or not. ✔

Click here for a video explanation of how to answer this question.

You have used 1 of 1 submissions

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