Pre-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 Questions

1. Are there an equal number of male and female performers on Austin City Limits?
2. Are male performers just as likely to have had a Top 10 hit as female performers?

Reading Check due May 03, 2016 at 17:00 UTC

Lecture Videos
Comprehension Check due May 03, 2016 at 17:00 UTC

R Tutorial Videos

Pre-Lab
Pre-Lab due May 03, 2016 at 17:00 UTC

Lab
Lab due May 03, 2016 at 17:00 UTC

Problem Set
Problem Set due May 03, 2016 at 17:00 UTC

(3/3 points)

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, 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 the "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. In what year did Allen Toussaint play at Austin City Limits?

2009 ✔

Answer: 2009

2009

1b. How many years old was Allen Toussaint when he performed?

75 ✔

Answer: 75

75

1c. How many variables for Allen Toussaint have missing data?

1 ✔

Answer: 1

1

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

You have used 1 of 1 submissions

(2/4 points)

Check the Variables of Interest

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

2a. Which variable tells us whether the performer is male or female?

The variable name in the dataset is Gender ✔ **Answer:** Gender ,
which is a categorical ✔ **Answer:** categorical variable.

2b. Which variable tells us whether the artist has had a Top 10 hit?

The variable name in the dataset is Top10 ✖
Answer: BB.wk.top10 ,which is a quantitative ✖
Answer: categorical variable.

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?

3a. We will use a Chi Square **Goodness of Fit** test to check whether there were an equal number of male and female performers. Why?

- (•) We want to see if the distribution of a categorical variable matches a proposed distribution model. ✔
- ( ) We want to know if there is an association between two categorical variables.

3b. We will use a Chi Square **Test of Independence** to determine if male and female performers were equally likely to have had a Top 10 hit. Why?

- (•) We want to determine if there is an association between two categorical variables. ✔
- ( ) We want to compare the distribution of a categorical variable to a proposed distribution model.

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

You have used 1 of 1 submissions