edX

KarenWest ▾

Courseware   Course Info   Discussion   Syllabus   Download R and RStudio   R Tutorials   Readings   Contact Us

Progress   Office Hours   Community

Reflect on the Question   Analyze the Data   Draw Conclusions

Lab 4: Austin City Limits

Help

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

 Do female artists play different kinds of music on *Austin City Limits* than male artists?

(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, 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.

1) How many artists are in this dataset?

116

116

Answer: 116

2) How many of the first 10 artists in the dataset were Grammy winners?

4

4

Answer: 4

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

Jazz/Blues   **Answer:** Jazz/Blues

| Final Check | Save | Hide Answer | *You have used 1 of 2 submissions* |

(4/4 points)

Check the Variables of Interest

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

4) Which variable tells us the kind of music played by each artist? The variable name in the dataset is:

Genre   Genre

5) What type of variable is this?

Categorical   Categorical

6) Which variable tells us whether the lead singer or performer is male or not?

Gender   Gender

Help

7) What type of variable is this?

Categorical   Categorical

| Final Check | Save | Hide Answer | *You have used 1 of 2 submissions*

(2/2 points)

Reflect on the Method

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

8) 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.

Correct. The contingency table will show us the frequencies of artists broken down across gender outcomes. Thus, it will display the number of females and males who play each type of music.

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

Help

- ○ 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. ✔

Correct. If conditional probabilities differ from marginal probabilities, then the two variables are not independent.

| Final Check | Save | Hide Answer | *You have used 1 of 2 submissions* |

edX

About edX   Follow Us

EdX offers interactive online classes and MOOCs from the world's best universities. Online courses from MITx, HarvardX, BerkeleyX, UTx and many other universities. Topics include biology, business, chemistry, computer science, economics, finance, electronics, engineering, food and nutrition, history, humanities, law, literature, math, medicine, music, philosophy, physics, science, statistics and more. EdX is a non-profit online initiative created by founding partners Harvard and MIT.

Terms of Service and Honor Code

Privacy Policy (Revised 4/16/2014)

Help

About

News

Contact

FAQ

edX Blog

Donate to edX

Jobs at edX

Twitter

Facebook

Meetup

LinkedIn

Google+