Reflect on the Question

Reflect on the Question | Analyze the Data | Draw Conclusions

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.

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problem

2/2 points (graded)

Review of Conditional and Marginal Probability

1a. The probability that an event will occur, given that a *different* event has also occurred, is known as:

- ◉ a conditional probability ✔
- ○ a marginal probability
- ○ a mutually exclusive event
- ○ the complement of the event

1b. Which of the following must be true for two events, A and B, to be considered *independent*?

- P(A)*P(B)=P(A)
- P(A | B)=P(A)+P(B)
- P(A)=P(B)
- P(A)=P(A | B) ✔

Submit You have used 1 of 2 attempts

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problem

1/1 point (graded)

Lab Preparation

In this lab you will be working with data from Austin City Limits.

1. Open RStudio. Make sure you've installed the **current version** of 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.

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.

Feel free to use the script from the week's PreLab, which you can modify for use in this Lab.

2. One of the following questions will be answered in this lab by comparing **marginal** and **conditional** probabilities. Select the question that should be answered using this method:

- Is there a relationship between the number of Twitter followers and the number of Facebook friends?
- Do male and female artists have different numbers of Twitter followers?
- Among male artists, is there an association between winning a Grammy award and the genre of music that you play? ✔
- How many Grammy winners have appeared on Austin City Limits?

Submit You have used 2 of 2 attempts