

# MITx: 14.310x Data Analysis for Social Scientists

Help

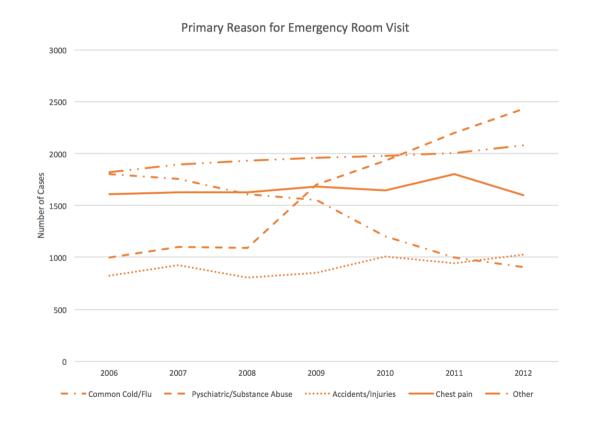


- Module 1: The Basics of R and Introduction to the Course
- Entrance Survey
- Module 2: Fundamentals of Probability, Random Variables, Distributions, and Joint Distributions
- Module 3: Gathering and Collecting Data,
   Ethics, and Kernel
   Density Estimates
- Module 4: Joint, Marginal, and Conditional Distributions &

Module 11: Intro to Machine Learning and Data Visualization > Visualizing Data > Data Visualization: Common Mistakes, Part III - Quiz

# Data Visualization: Common Mistakes, Part III - Quiz

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**Question 1** 

# <u>Functions of Random</u> Variable

- Module 5: Moments of a Random Variable,
   Applications to Auctions, & Intro to Regression
- Module 6: Special
   <u>Distributions, the</u>
   <u>Sample Mean, the</u>
   <u>Central Limit Theorem,</u>
   and Estimation
- Module 7: Assessing and Deriving Estimators
   Confidence Intervals, and Hypothesis Testing
- Module 8: Causality,
   Analyzing Randomized
   Experiments, &
   Nonparametric
   Regression
- Module 9: Single and Multivariate Linear

#### 1/1 point (graded)

The above graph presents fake data regarding the number of cases at an imaginary Emergency Room (ER) between 2006 and 2012. Based on the discussion in class, which of the following are ways that the graph can be improved to make it more easily interpretable? (Select all that apply)

- a. Use more distinct patterns for each of the trends or change each of the lines to different colors
- b. Add percentage signs to the tick marks on the y-axis.
- c. Match the order of lines in the legend with how they appear on the left most side of the graph.
- d. Simplify the legend by using abbreviations



### **Explanation**

Looking at the graph presented above, it is difficult to determine any distinct trends. As mentioned in class, a better way to present this data may be to use a stacked bar chart where each bar represents 100%. In the above graph, it also is difficult to distinguish between the reasons Common Cold/Flu and Other, making choice A correct. Choice C is also mentioned as a way to improve similar charts during lecture. Choice B would be adding repetitive information to the graph, while Choice D would present the chart from standing on its own. Therefore, neither B or D is correct.

#### Models

- Module 10: Practical Issues in Running Regressions, and Omitted Variable Bias
- Module 11: Intro to
   Machine Learning and
   Data Visualization

#### **Machine Learning I**

Finger Exercises due Dec 12, 2016 05:00 IST

#### **Machine Learning II**

Finger Exercises due Dec 12, 2016 05:00 IST

### **Visualizing Data**

Finger Exercises due Dec 12, 2016 05:00 IST

- Module 12: Endogeneity, Instrumental Variables, and Experimental Design
- Exit Survey

Submit You have used 1 of 2 attempts

✓ Correct (1/1 point)

# **Question 2**

1/1 point (graded)

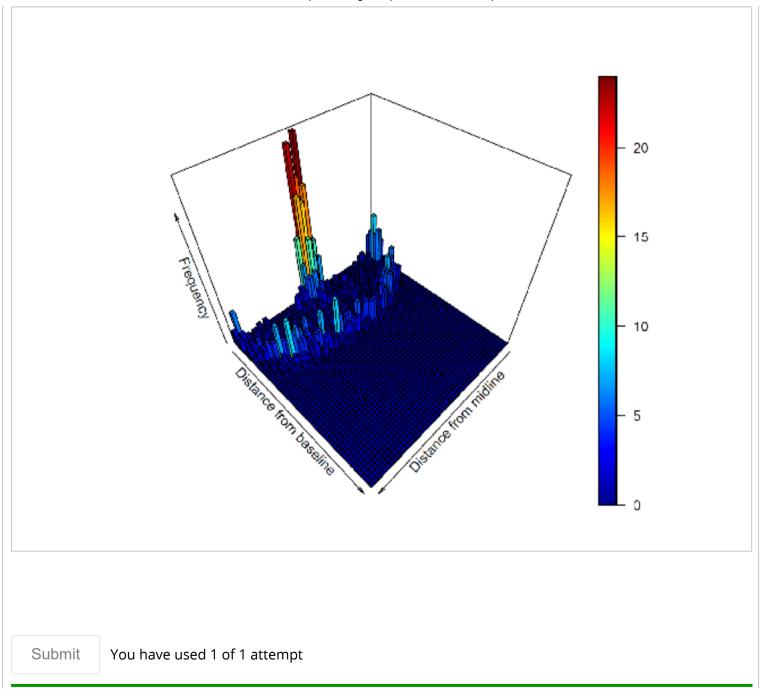
True or False: When presenting data, three dimensional graphics should be avoided at all costs.

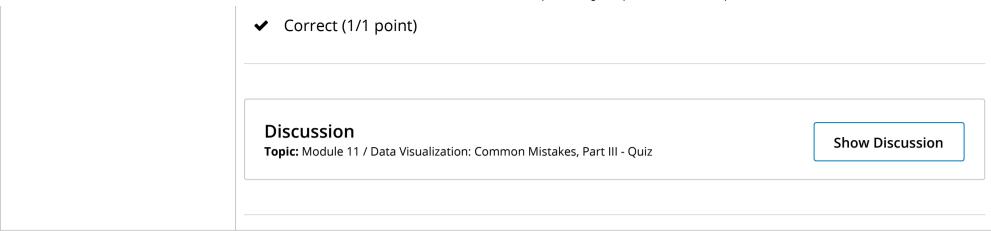
a. True

🏿 b. False 🗸

# **Explanation**

False. While Prof. Duflo comments that 3-D graphs should be avoided, she notes that in some cases they are indeed necessary since the data you wish to display really has three dimensions. For instance, sometimes it is better to use 3-D histrograms instead of 2-D ones since often times the probability distribution functions they are representing are multivariate. An example of this from class is the distribution of shots in a basketball court by Steph Curry.





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