

Essential Design Principles for Tableau

Module 1 Quiz

<https://www.coursera.org/learn/dataviz-design/home/welcome>

1.

Question 1

True/False: You have 3 data points: 29%, 33%, 31%. It is appropriate to adjust the y-axis to start at 25% because the numbers are so close to each other.

1 / 1 point

☐

True

☒

False

Correct

The fact that the numbers are so close to each other is exactly why we'd want to see them compared with the y-axis starting at 0.

2.

Question 2

Although most authors view pie charts as to-be-avoided at all costs, others do see them as effective. Select the one scenario where both pro- and anti-pie chart writers will agree that pie charts should not be used.

1 / 1 point

☒

When there are 5 or more categories that are to be compared.

☐

To put the audience in a positive frame of mind.

☐

When Communicating part-to-whole relationship.

☐

A pie chart with 2 slices.

Correct

Too many categories to compare is best perceived in a bar graph visualization.

3.

Question 3

According to your readings, a functionalist perspective of data visualization is _____.

1 / 1 point



When a visualization uses many colors.



When a visualization is exciting to look at.



When a visualization is comprehensive and can answer every question in one view.



When a visualization effectively represents the data so that it can be understood quickly and easily.

Correct

The author of the article, [Good Visualizations Should Be Boring](#), defines functionalist perspective as saying, *"the purpose of visualization is to most effectively represent that data so that it can be understood by the audience both most quickly and easily."*

4.

Question 4

What's the one thing definitively wrong with this visualization:



1 / 1 point



The numbers are wrong.



The y-axis doesn't start at zero.



Branding visualizations should be avoided at all costs.



"Then" should be yellow; "now" should be green.

Correct

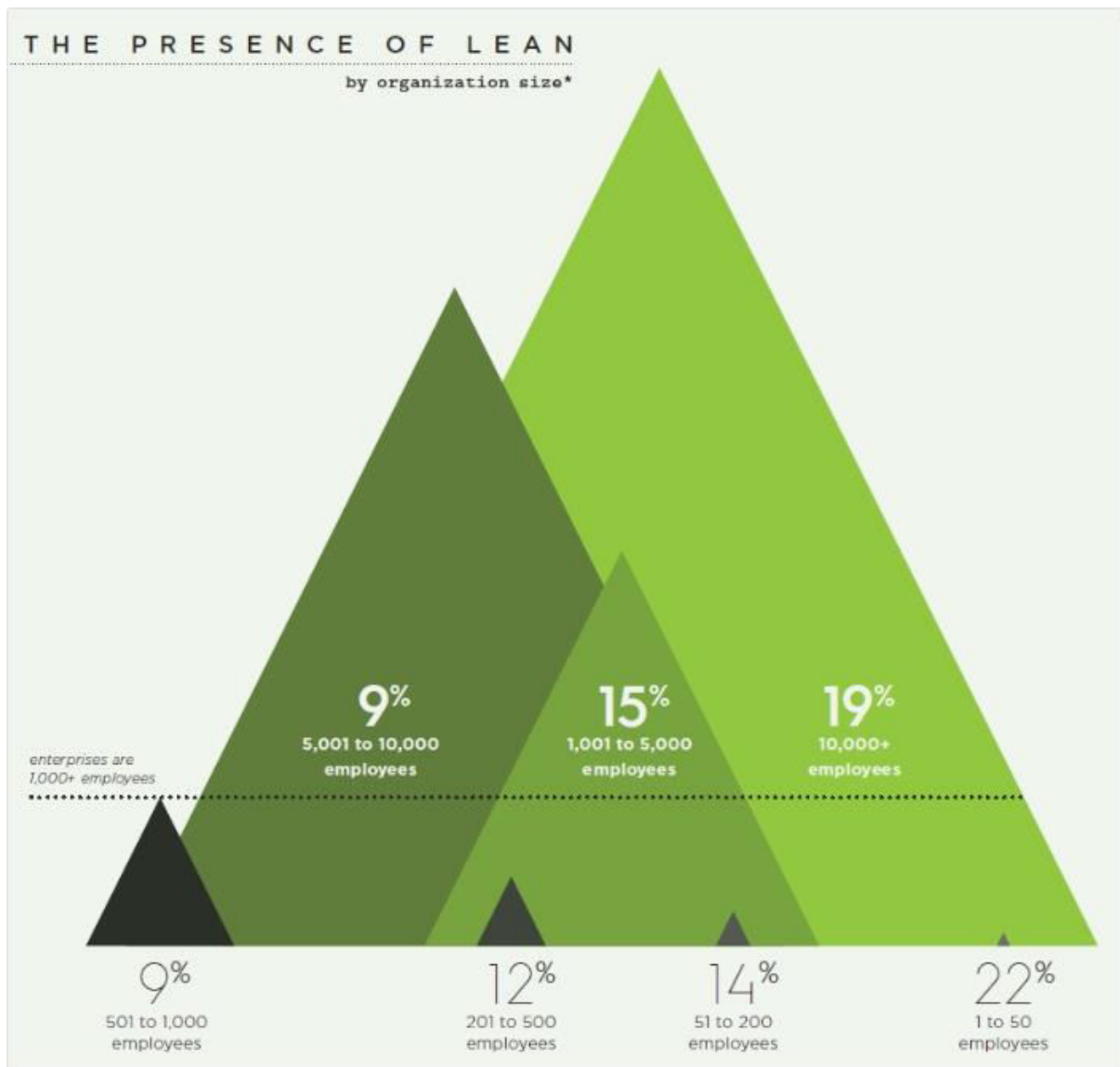
This one is labeled as definitively wrong, while the other options are either not definitely, problematic, or unknown.

5.

Question 5

Routhu Siddhartha

This visualization has several issues with its design. Identify the only one of the following that is not an issue with this visualization.



1 / 1 point



The bar heights do not match the percentages.



The reference line is not clear.



There is too much text.



It's very difficult to interpret.

Correct

There are so many things wrong with this visualization, but this is not one of them.

6.

Question 6

According to your readings, if you have a lot of categories in time series data, what is the best approach for your visualization from the following options:

1 / 1 point



Trellis plot



Stacked area graphs



Line graphs with totals above



A stream graph (a type of stacked area graph displaced around a central axis)

Correct

Based on the reading, [Stacked Area Graphs Are Not Your Friend](#), using a trellis plot is the best approach, although in certain circumstances the other options, except stacked area graphs, might be okay.

7.

Question 7

True/False: It is more helpful to the reader to eliminate the axis altogether where appropriate and label individual data elements on the visualization itself.

1 / 1 point



False



True

Correct

Counterintuitive, but it's easier for people to read a visualization if it's labeled directly; and since it's labeled directly at least one of the axis can be eliminated.

8.

Question 8

A 3D chart should be used only in the following circumstances:

1 / 1 point



Only when you need to plot three-dimensional data.



Whenever possible as long as you ensure that elements are well labeled.



Whenever you want to add visual elements to your visualization that pop.



Only when you need to compare values across categories.

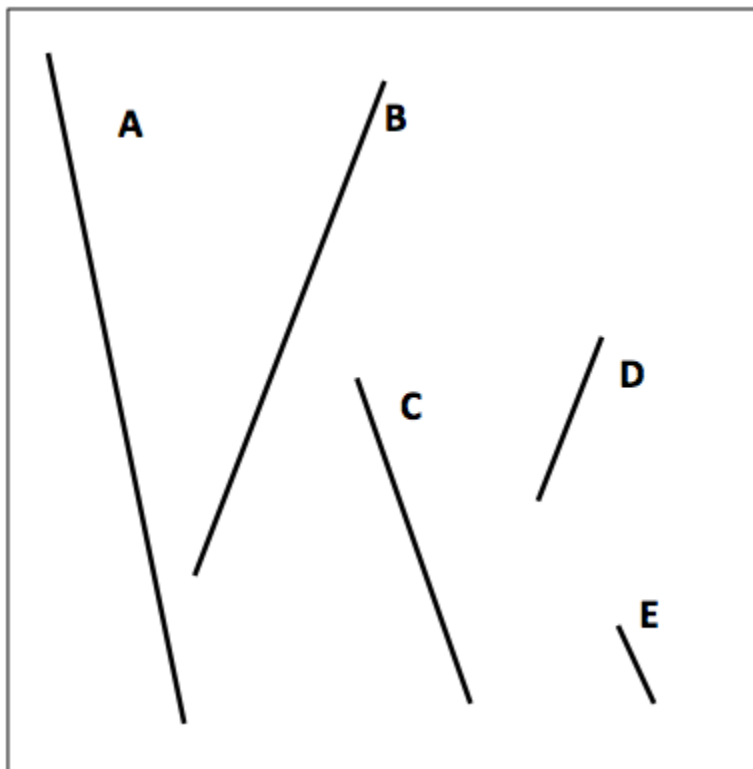
Correct

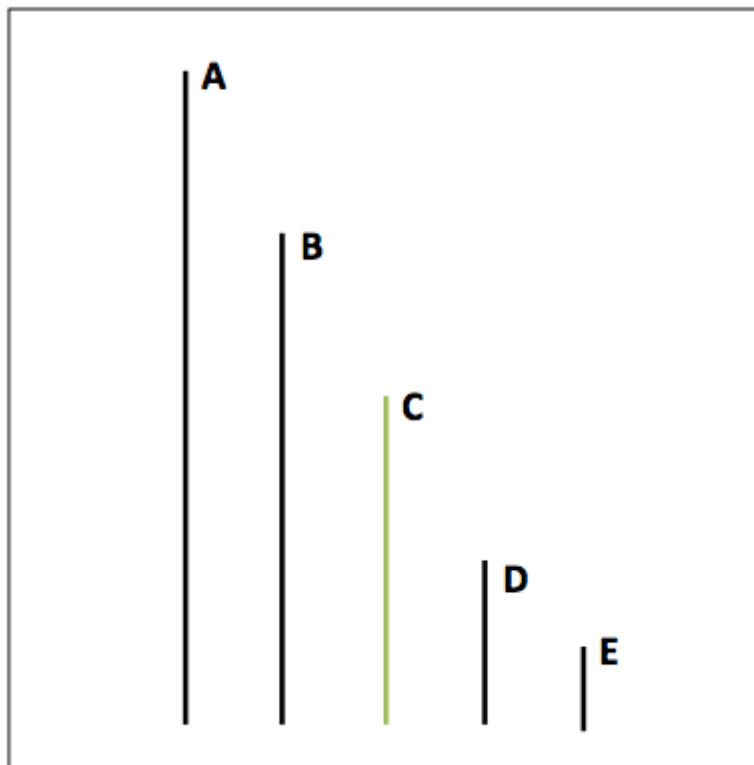
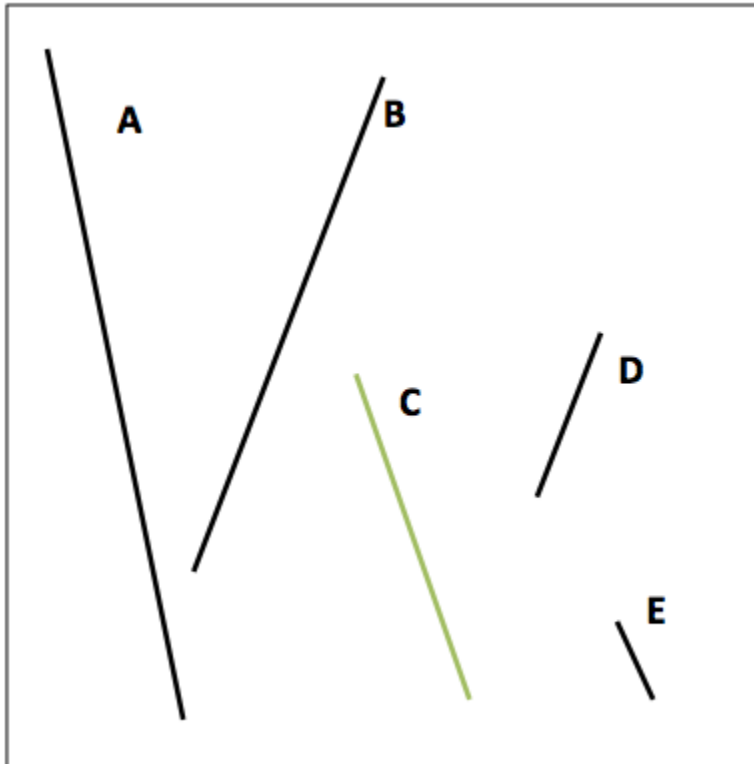
But for the most part, you basically never want to use a 3D chart.

9.

Question 9

Can you find the line with the average length in this set?





1 / 1 point



Line C



Line B



Line E



Line D



Line A

Correct

Line length is a “pop-out” effect (pre-attentive attribute) that the human brain can quickly process.

10.

Question 10

When doing a visualization for a small committee that is looking at gender (male/female) comparisons, which of the chart choices is not recommended to use:

0 / 1 point



Cross-tabulation or table



Pie chart



Radar chart



Bar graph

Incorrect

Please revisit the lesson *Types of Visualizations*.

11.

Question 11

A scatterplot is useful for showing _____.

1 / 1 point



Spatial information.



Data that are at different time periods.



Dimension on one axis and measures on the other axis.



Two different measures.

Correct

If you have two measures, your first instinct should be a scatterplot.

12.

Question 12

Pick the one time that you should not use a table.

1 / 1 point



Always avoid tables bigger than 2 x 2



When you are presenting to a large, live meeting.



At a committee meeting where people can spend time focusing on the visual.



On a website which people will access on their own time.

Correct

Tables are great, but it does make it hard for people to concentrate on both your talking and understanding the table. So try to avoid it.

13.

Question 13

Humans have developed perceptual and cognitive capabilities that initially tend to favor _____?

1 / 1 point



Accuracy



Speed



Precision and completeness

Correct

Fast visual processing and pattern detection were important to our ancestors because quick detection and reaction times could mean the difference between life and death, even if there were some false

alarms. The ability to rapidly detect patterns without conscious effort is part of the reason that data visualization is so powerful, but the design also needs to support the viewers' ability to make accurate interpretations of what they are seeing.

14.

Question 14

True/False: Data in a visualization must never be sorted based on the importance of the category of the data.

1 / 1 point



False



True

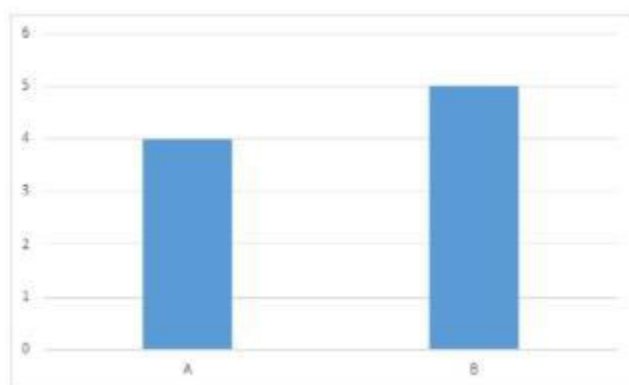
Correct

It's actually the best way to sort the data.

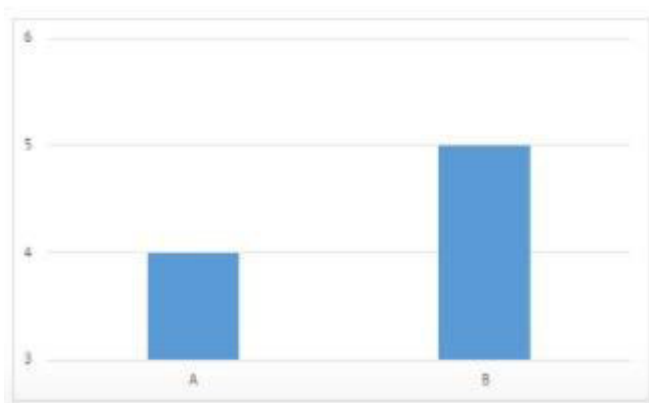
15.

Question 15

Suppose you have a bar graph that has values of 4 and 5. If you start the axis at 0 and increment by 1, then the visual increase between the bars showing 5 and 4 is 25%. See example A:



What would the visual increase be between the bars representing 4 and 5 if you started the axis at 3 and incremented by one? See example B:



1 / 1 point



12.5%



60%



125%



100%

Correct

The calculation for the answer is $4 - 3 = 1$ and $5 - 3 = 2$, so $(2 - 1)/1 = 100\%$ or double.

16.

Question 16

Which most closely describes the process of visual encoding?

1 / 1 point



Transcending



Translation



Transposition

Correct

Visual encoding translates data into a “visual vocabulary and language” that the human brain is naturally good at perceiving and interpreting.

17.

Question 17

System 1 refers to which type of thinking and responding?

0 / 1 point



Slow, deliberate, and logical



Fast, intuitive, and emotional



Moderate, methodical, and qualitative

Incorrect

Please revisit the lesson *Cognitive vs Perceptual Design Distinction*.

18.

Question 18

If you had to figure out the sum of all line lengths, that would involve?

1 / 1 point



Systems 1 and 2



Only System 2



Only System 1

Correct

While you might be able to detect the line with the average length in a collection, figuring out the sum of all the line lengths, however, takes the kind of conscious and concerted effort embodied by System 2.