Feedback — Lecture 01B: data visualization

This quiz is based on the 3 video lectures:

- Visualization (1): time-series plots
- Visualization (2): bar plots
- Visualization (3): box plots

You have 1 attempt for the quiz. Please double check your answers before submitting.

Solutions will be released when the quiz closes, at 09:20am, Friday, 09 January 2015.

Question 1

Are you aware that Chapter 1 from the course textbook, http://learnche.mcmaster.ca/pid contains material that covers this section of the course?

Your Answer		Score	Explanation
○ No			
⊙ Yes	✔	1.00	Please make sure you read this chapter.
Total		1.00 / 1.00	

Question 2

Which of the following are sparklines?

Check all that correctly apply.

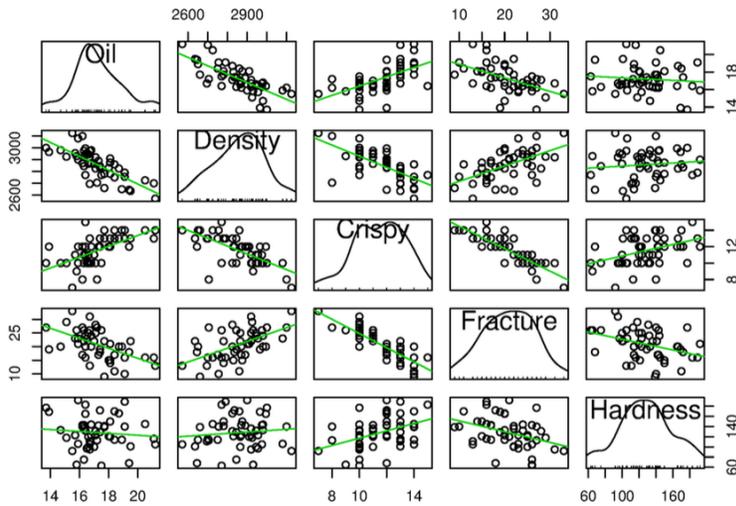| Your Answer	Score	Explanation
☑	✖ 0.00	
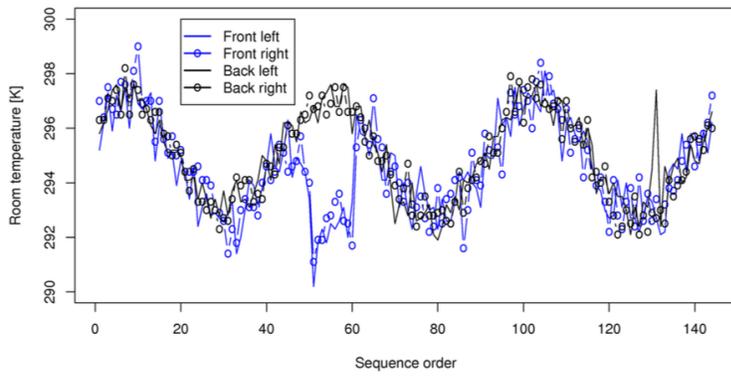
✓ ✗ 0.00
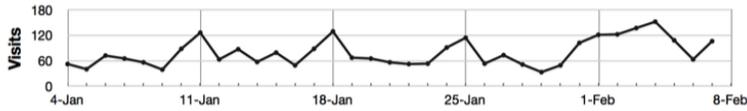
✓ ✗ 0.00   This is a scatterplot matrix

✓ ✓ 0.25

Total	0.25 / 1.00

Question 3

Why are good, clear plots so important?

Check all that correctly apply.

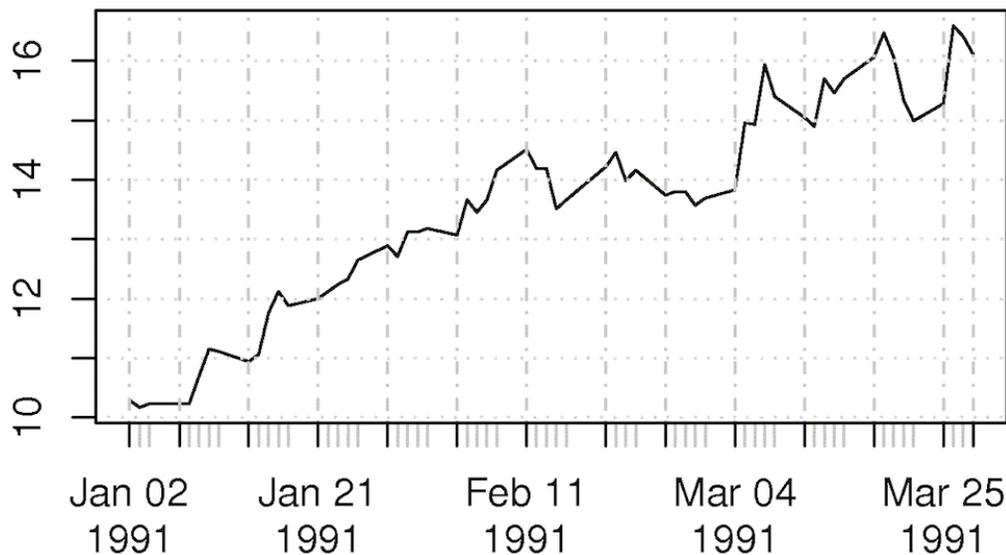| Your Answer	Score	Explanation
☑ Someone doesn't have to take a lot of time to figure out what is going on in the plot.	✔ 0.33	
☑ So that printing ink costs can be reduced, thereby saving money for the company.	✘ 0.00	This is not likely a reason. A good, clear plot has savings that far exceed the extremely minor value of printing.
☑ People that must make decisions from the plot must be certain they have made the right decision (i.e. interpreted the plot correctly).	✔ 0.33	
Total	0.67 / 1.00	

Question 4

What name(s) is(are) used for the horizontal axis of a regular time-series plot?

Check all that correctly apply.

Your Answer	Score	Explanation
☑ Category axis	✘ 0.00	
☑ Sequence order	✔ 0.20	

☑ Distribution axis	✘	0.00
☑ Value axis	✘	0.00
☑ Time	✔	0.20
Total		0.40 / 1.00

Question 5

When plotting bar plots, why is it recommended to reorder the bars?

Check all that correctly apply.

Your Answer	Score	Explanation
☑ To make your intended message clear to the reader of the plot.	✔ 0.25	
☑ So that the category labels can be written inside the bars.	✘ 0.00	This is done if the data is to shown in a limited space.
☑ Bars should be colour-coded with individual colours to help the reader.	✘ 0.00	
☑ To make a declining or increasing pattern in the bars.	✘ 0.00	This is not true; the declining or increasing pattern only show up if the bars are reordered by value; but the reason almost certainly is not to create a pattern.
Total	0.25 / 1.00	

Question 6

Consider the following illustration then *check all options that correctly apply*, based on what we
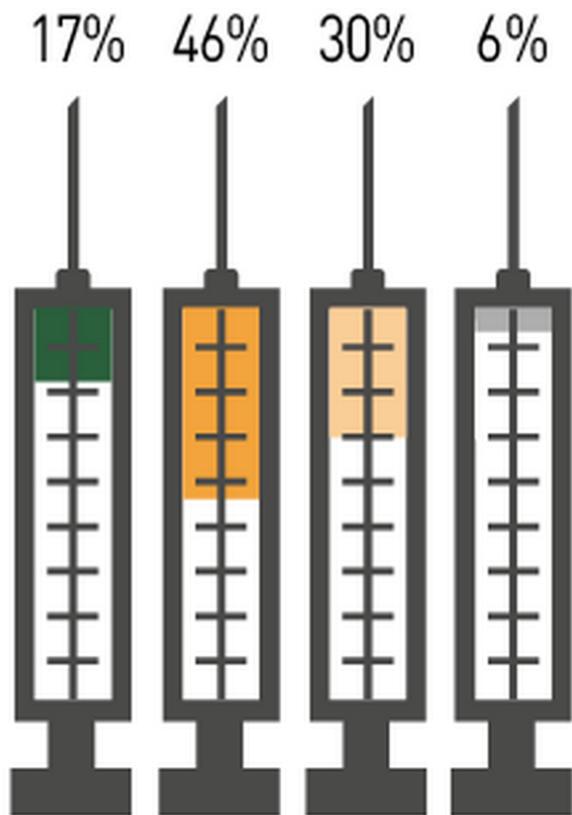
learned in the videos.

17% 46% 30% 6%

HOW HIGH IS THE DEMAND FOR INTEGRATING
RNA-SEQ TECHNOLOGY INTO THE CLINICAL SETTING?

- Very high demand
- High demand
- Low demand
- No demand

Image credit: http://viz.wtf/

Your Answer		Score	Explanation
☑ If this were printed on a greyscale printer, the plot will lose all meaning.	✔	0.25	This is not entirely true; the values are still retained and if printed well the greyscale conversions of green and orange might still be interpretable (and assuming the order from top to to bottom of the legend corresponds going from left to right in the syringes). *This answer should be graded correctly whether the checkbox was selected or not.*
☑ A bar plot would certainly be the best way to display these data.	✗	0.00	Not likely.
☑ Unnecessary use of data ink	✔	0.25	Certainly: The syringes and shading are not necessary at all.

☑ A table would be a more efficient way to report the results.	✔	0.25
Total		0.75 / 1.00

Question 7

Regarding box plots ... (*check all that options correctly apply*)

Your Answer	Score	Explanation
☑ has a standard deviation of a normal distribution	✘ 0.00	
☑ To calculate it, it assumes the data are normally distributed	✘ 0.00	
☑ The first and third quartiles are shown on a box plot	✔ 0.25	
☑ The average can be used instead of the median on the box plot	✔ 0.25	This is true (but I wouldn't recommend it; why?)
Total	0.50 / 1.00	