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## Week 5 Quiz

### Multiple Choice

1/1 point (graded)

When thinking about data visualization, what element is critical in making you value the visualization?

☒ Context

☐ Raw values

☐ Plots and graphs



#### Answer

Correct: Video: "Role of Visualization"

Submit

## Multiple Choice

1/1 point (graded)

You are given a data set that contains crime reports for different neighborhoods in

New York City and told to analyze it. Would you consider this a declarative or explorative example?

☒ Explorative

☐ Declarative



**Answer**

Correct: Video: "Types of Visualization"

Submit

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## Multiple Choice

1/1 point (graded)

Which is an example of conceptually driven data visualization?

☒ Physicists visualize the well-understood relationship between force and acceleration to teach introductory physics students.

☐ Doctors try to explore the relationship between a drug and the effect it has on their patients using data visualization.

☐ Realtors visualize a data set containing rental listings and the amount of interest they attract.



**Answer**

Correct: Video: "Types of Visualization"

Submit

## Multiple Choice

1/1 point (graded)

Which is NOT a quality of good data visualization according to Andy Kirk?

☐ Trustworthy

☐ Accessible

☐ Elegant

☒ Meaningful



### Answer

Correct: Video: "Key Design Principles"

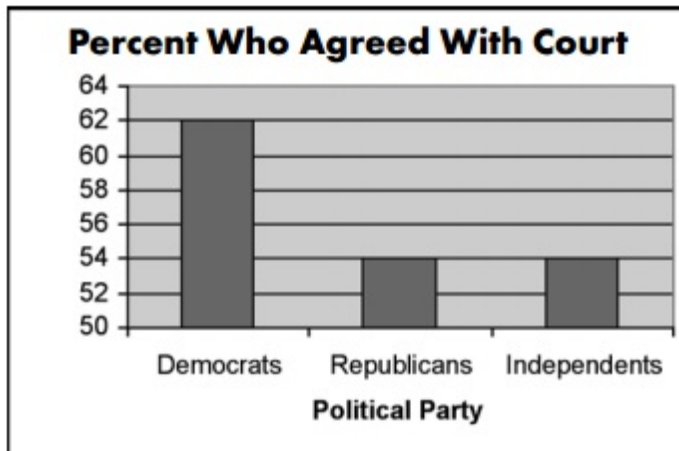
Submit

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## Multiple Choice

1/1 point (graded)

What is the main problem with this graph?



☒ It is not trustworthy because the y-axis is misleading.

☐ It provides no meaningful results.

☐ There is no clear purpose of this visualization.

☐ It could be more elegant.

☐ It is politically biased.



### Answer

Correct: Video: "Key Design Principles"

Submit

## Checkboxes

1/1 point (graded)

What 2 things are most important in creating elegant visualizations?



Focus on what is relevant.



Remove anything which isn't adding to the figure.



Use a unique style.



Make sure the your visualization is trustworthy.



### Answer

Correct:

Video: "Key Design Principles"

Video: "Key Design Principles"

Video: "Key Design Principles"

Video: "Key Design Principles"

Submit

## Multiple Choice

1/1 point (graded)

What is the first step with any dataset?



Research all of the background information.



Perform an initial exploration.



Verify the findings that others have found.



### Answer

Correct: Video: "World Development Indicators"

Submit

## Multiple Choice

1/1 point (graded)

What is the result of the following line of code?

```
import numpy as np
np.unique([1,1,3,4,2,3,3])
```

☒ array([1,2,3,4])

☐ array([1,3,4,2])

☐ array([1,1,3,4,2,3,3])

☐ array([4,3,2,1])



### Answer

Correct: Video: "World Development Indicators"

Submit

## Multiple Choice

1/1 point (graded)

Which command allows you to edit the view of the axes on a matplotlib plot?

☐ grid()

☐ plot()☒ axis()☐ arange()**Answer**

Correct: Video: "Basic Plotting in Matplotlib Part 1"

Submit

## Multiple Choice

1/1 point (graded)

When is it NOT acceptable to avoid axis labels in plots using matplotlib.

☐ When you are simply exploring the data and know their values.☒ When you are presenting non-intuitive results to another person.☐ When the labels can be determined by the values (e.g., percentage correct, years).**Answer**

Correct: Video: "Basic Plotting in Matplotlib Part 1"

Submit

## Multiple Choice

1/1 point (graded)

As an example, let's consider a data set consisting of two variables, one representing how long students spend studying and the other representing their average test scores. Assuming students study effectively, how would you expect these two variables to be correlated?

- ☒ Positively correlated because I would expect the test scores to go up if they spend more time studying.
- ☐ Negatively correlated because as the test scores go down, students should spend more time studying.
- ☐ No correlation because these variables should be independent.



### Answer

Correct: Video: "Basic Plotting in Matplotlib Part 2"

Submit

## Multiple Choice

1/1 point (graded)

Which graphing method should you use to visualize the correlation between two arrays?

- ☐ Histogram
- ☐ Barplot
- ☒ Scatter plot
- ☐ Line plot



**Answer**

Correct: Video: "Basic Plotting in Matplotlib Part 2"

Submit

## Multiple Choice

1/1 point (graded)

Which of the following does a boxplot NOT show you?

☐ Median

☐ Interquartile range

☐ Min and max values

☒ Mean

**Answer**

Correct: Video: "Matplotlib Additional Examples"

Submit

## Multiple Choice

1/1 point (graded)

Which library can you use to easily create geographic overlays?

☒ Folium

☐ NumPy☐ Matplotlib☐ IPython**Answer**

Correct: Video: "Folium Example"

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## Multiple Choice

1/1 point (graded)

In the case study on cholera, people attributed poor smells to the source of the disease and thought weaker people were more susceptible to the disease. When drawing these conclusions, what mistake was made?

☐ Not recognizing positive correlations.☒ Mistaking correlation for causation.☐ Believing there was no correlation.**Answer**

Correct: Video: "Case Study 1: Cholera"

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## True or False

1/1 point (graded)

Outliers can sometimes be critical to finding convincing answers when analyzing data.

☒ True

☐ False



### Answer

Correct: Video: "Case Study 1: Cholera"

Submit

## Multiple Choice

1/1 point (graded)

Think back to France's Russian Campaign case study. What made this visualization so special?

☐ The figure contained the study hypothesis, process, and conclusion in one image.

☐ The figure showed how each data set was related to the others.

☐ The figure showed a process that can be easily replicated.

☒ The figure represented many encoded types of data to depict a story.



### Answer

Correct: Video: "Case Study 2: Napoleon's March"

Submit

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