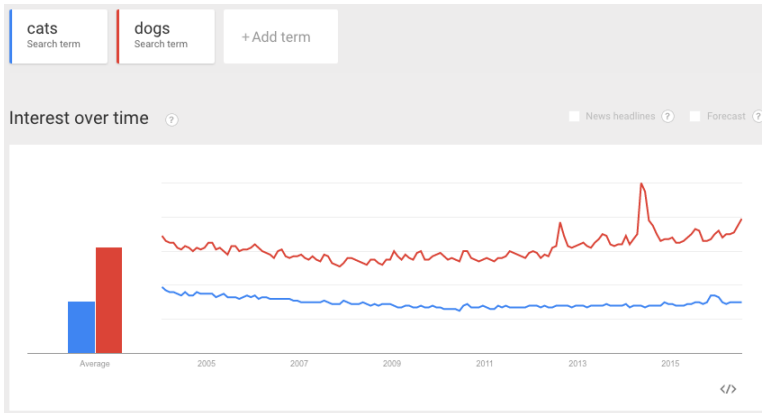




6. Below is an image from Google Trends that plots Cats and Dogs. Choose the most accurate description of what this data is actually showing based on what you know about how Google Trends works.



- a) People like dogs more than cats
- b) People search for “dogs” more frequently than “cats”
- c) There was a sharp increase in the dog population sometime between 2014 and 2015
- d) The popularity of dogs as pets is slightly increasing over time, while the popularity of cats is relatively flat

7. Based on the same graph above (from question 1), give a plausible explanation or hypothesis for the spike in dog searches that occurred between 2014 and 2015 that would lead to further investigation or research. Give your explanation and what you would want to investigate next.

8. Which of the following is the most accurate description of what is known as the “digital divide”. The digital divide is about how...

- a) ... people’s access to computing and digital technology increases over time through a process of dividing and growing quickly – it is often likened to the biological processes of cell growth.
- b) ... people’s access to computing and the Internet differs based on socioeconomic or geographic characteristics
- c) ... people’s access to computing technology is affected by the fact that newer devices that use new protocols makes it more difficult for them to communicate with older devices and technology
- d) ... the amount of data on the Internet is growing so fast that the amount of computing power and time we have to process it is lagging behind.

9. Which of the following statements are true about pivot tables? Select two answers.

- Pivot tables are used to quickly remove errors and inconsistencies from a dataset
- Pivot tables are used to quickly perform aggregate computations and groupings on a set of raw data
- Pivot tables are used because they automatically detect and highlight potential trends or patterns in the underlying raw data
- Pivot tables are used to generate a summarized view of a large dataset which is helpful for gaining insight.

10. Which of the following is the most accurate statement about cleaning and filtering data?

- a) Using computing tools to filter and clean raw data makes it impossible to analyze or draw accurate conclusions
- b) Filtering and cleaning data is a fully automated process that should not require human input or intervention
- c) Filtering and cleaning data is a human process that does not require the use of computers
- d) Filtering and cleaning data is necessary to ensure that data is in a form that is better for computers to process

11. In order to analyze data with a computer, we need to clean the data first. Based on your experience in lesson 13, would you say that data analysis is a perfectly objective process? Why or why not?

12. Consider the following statement from the CS Principles Course Framework (the list of things this course is supposed to cover):

*7.4.1C The Global distribution of computing resources raises issues of equity, access, and power.*

Briefly describe one of these issues that you learned about in the lesson and how it affects your life or the lives of people you know. Keep your response to about 100 words (about 3-5 sentences).

13. Describe two properties that make a great visualization of data and two properties that make a poor visualization.