R Markdown

1. How would you strike through some text?
   strikethrough .
2. What is the format for including a link that appears as blue text in your markdown document?
   [text that is shown](link.com).
3. How do you produce bold text?
   bold
4. How do you produce italicized text?
   some text
5. How do you produce your final document?
   Knit.

Types of Data Science Questions.

1. A study examining how modifying a group of adults' diet changes their cholesterol is an example of which kind of study?
   Causal.
2. We collect data on all the songs in the Spotify catalogue and want to summarize how many are country western, hip-hop, classic rock, or other. What type of analysis is this?
   Descriptive.
3. We collect data on a small sample of songs from the Spotify catalogue and want to figure out the relationship between the use of the word "truck" and whether a song is country western. What type of analysis is this?
   Inferential.

Experimental Design

1. In a study measuring the effect of diet on BMI, cholesterol, lipid levels, triglyceride levels, and glycemic index, which is an independent variable?
   Diet.
2. Which of the following is NOT a method to control your experiments?
   Placebo effect.
3. What might a confounder be in an experiment looking at the relationship between the prevalence of white hair in a population and wrinkles?
   Age.
4. According to Leek group recommendations, what data do you need to share with a collaborating statistician?
   All of the above. The raw data, A tidy data set, A code book describing each variable and its values in the tidy data set, and An explicit and exact recipe of how you went from the raw data to the tidy data and then code book.
5. If you set your significance level at p-value ≤ 0.01, how many significant tests would you expect to see by chance if you carry out 1000 tests?
   10.
6. What is an experimental design tool that can be used to address variables that may be confounders at the design phase of an experiment?
   Randomizaiton.
7. Which of the following describes a descriptive analysis?
   Generate a table summarizing the number of observations in your dataset as well as the central tendencies and variances of each variable.

Big Data

1. Which is NOT one of the three V's of Big Data?
   Valuable.
2. Which one of the following is an example of structured data?
   A table of names and student grades.
3. What is the reason behind the explosion of interest in big data?
   The price and difficulty of collecting and storing data has dramatically dropped.

Module Four Summative Quiz

1. What is the format for including a link that appears as blue text in your markdown document?
   [text that is shown](link.com).
2. Which of the following describes a predictive analysis?
   Using data collected in the past to predict values in the future.
3. We collect data on all the songs in the Spotify catalogue and want to summarize how many are country western, hip-hop, classic rock, or other. What type of analysis is this?
   Descriptive.
4. What might a confounder be in an experiment looking at the relationship between the prevalence of white hair in a population and wrinkles?
   Age.
5. Which one of the following is an example of structured data?
   A table of names and student grades.