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Review and Introduction to Probability Concepts

In the previous lesson, you learned how to describe variables in a data set using numerical and graphical summaries. You learned about measures of central tendency and location, and you learned about measures of spread or variability.

You learned different tools for summarizing continuous and categorical data, and you learned a variety of tools for visualizing these data.

These measures and tools are at the heart of exploratory data analysis, or EDA.

In the remainder of this module, you learn additional tools for exploratory data analysis and learn how to effectively communicate the message in your data.

But first, we take a slight detour to consider the big picture of statistics and data analysis.

Although the focus of this course is the practical application of statistical thinking and statistical methods for solving real problems, you will be more adept at applying these methods if you understand some core statistical theory.

This lesson provides an introduction to the essential concepts in probability that will guide your use of data and statistical methods for decision making.

You learn about samples and populations, and the importance of having sample data that represent the population of interest.

You learn that statistics are computed from sample data, and that parameters are characteristics of the population.

You learn about the normal distribution, and why statisticians are so fond of this distribution.

You also learn about the Central Limit Theorem, and why this theorem is important in the application of many statistical methods that you see later in this course.

In this short lesson, you won't learn all of the important concepts in probability and statistical theory, but you learn just what you need to know in order to understand and apply the methods covered in future modules.

If you are interested in learning more about probability theory and probability distributions, we encourage you to explore this rich and broad topic on your own. Some references are provided in the Read About It for this module.

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