Welcome to Excel and SQL Essentials

Data analysis is a useful skill for everyone. Not only will it elevate you professionally, it can also benefit you personally, like when you balance your monthly budget.

By the end of this course, you will be able to do the following tasks:

- Explain the value of data and data analysis
- Use Excel to clean, manipulate, and analyze data
- Use SQL to read data from one or more tables in a database
- Make data-driven business decisions

Data is at the core of how our world runs. Data is just information—but it's very valuable information. It can help people make decisions by seeing patterns and trends. It can also help companies make smart financial decisions. In this lesson, you'll learn what data is, the different types of data, and why data matters.

Quantitative data

Measurable information that can be expressed in numbers or quantities.

Data can be quantitative, which means that it's measured by its numerical quantity. Some examples include sales amounts in dollars, number of tickets sold, or number of returns. Quantitative data is useful because math functions (such as totals or averages) can be used to get even more information from the data.

Qualitative data

Descriptive information that focuses on qualities, traits, or other aspects that can be observed but not measured.

On the other hand, there is also qualitative data, which is described by its quality and traits. Some examples include the city names of all the Target stores in the country, the types of surgeries that were performed at a hospital in the last year, or open-ended responses to interview questions. Qualitative data is useful because it can clarify the data and help create comparisons, categories, and groupings that make it easier to understand the data.

Data storage

Some companies collect and organize their data themselves, while others have a third-party company do this for them. In either case, they use their choice of a data management system to hold and access the data. A data management system is a digital platform that can hold lots of databases. And a database is an organized collection of data and can be accessed electronically.

Data can be stored in a tabular database or a relational database. A tabular database is one that organizes the data into a table structure, like a data table in a spreadsheet. Excel is a good example of a tabular database. A relational database does not allow you to see the actual data, but instead lets you pull the data that you want using a programming language. A relational database can hold hundreds of

data tables, so it's good for housing large amounts of data. Later in this course, you'll learn how to use the SQL programming language to pull data from a relational database.