1.3 Lesson Summary - Charting a New Course With Excel

Excel offers a wide range of options for creating a high-quality **Charts** and data visualization.

Concept: GitHub is a service for hosting source code. GitHub allows a user to save and share files while providing many useful tools for tracking and managing updates to files. GitHub is ideal for projects requiring developers to share and edit files as a group. A group of files relating to the same project are organized in GitHub as a **Repository**.

* Activity: 01-Ins\_GitHub
* Suppl link: <https://github.com/>

Concept: **Line Charts** are useful for visualizing changing data over time or can be used to display the continuous relationship between two variables. **Bar Graphs** can display values for many different series. **Scatter Plots** display points of data illustrating the relationship between two variables. A **Trendline** indicates patterns found between disparate data points.

* Activity: 02-Ins\_BasicCharting, 03-Stu\_LineAndBar, 04-Ins\_ScatterPlot

Concept: Data can be sorted using Excel’s **Sort And Filter** options.

* Activity: 07-Par\_FilterGameSales

Concept: **Standard Deviation**, **Variance**, and **Z-Score** are used to describe the variance of data in statistics. Variance describes how far values are from the mean. Standard deviation describes how spread out the data is from the mean. Z-Score measures how far from the mean a specific data point is in terms of standard deviations. These values can be calculated in Excel using the following functions:

**STDEV.P** can be used to calculate standard deviation, for example: *=STDEV.P(B2:B13)*

**VAR.P** can be used to calculate variance, for example: *=VAR.P(B2:B13)*

**Z-Score** can be calculated by subtracting the mean from the value and then dividing by the standard deviation

* Activity: 08-Ins\_Variance-SD-Zscore, 09-Stu\_VarSDZScoreReview

Concept: Sorting data into **Quantiles**, equal-sized fragments, is a good way to describe how it is distributed. The two most popular types of quantiles are **Quartiles**, divide the data set into four equal parts, and **Percentiles** divide the data set into 100 equal parts. **Box Plots** or a graphical illustration of the variance in data.

* Activity: 10-Ins\_QuantilesOutliersBoxplots, 11-Stu\_OutliersDrawnQuartiled

Excel can be used to visualize a broad range of data and descriptions about that data.