**Apply Descriptive Statistics Functions in Excel**

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| **Directions** |

* **1 min** - **Review** the directions in the handout.
* **8 min** - **Complete** the tasks outlined in the handout. You can discuss with your partner as you work through the steps.
* **1 min** - **Compare** your results with your partner.

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| **Your Task** |

**Download the CSV File:**

* Right-click the **Employee Sales Data.csv** file.
* Select **"Download"** from the menu.
* This will download the file directly to your computer without opening it in Google Sheets.
* Open the downloaded file in Excel.

**Adjust the Data for Readability:**

* Adjust the column widths by selecting all columns and double-clicking between any two headers.
* Freeze the top row so the headers remain visible while scrolling.

**Apply Sorting and Filtering:**

* **Sort** the dataset by **Sales Amount** in descending order.
* Apply a **filter** to display only employees under the age of 30.
* Undo the filtering command to restore the full dataset before moving on to calculating descriptive statistics.

**Calculate Descriptive Statistics:**

* **Mean (Average):**Calculate the mean for the **Sales Amount** and **Working Hours** columns.  
  =AVERAGE(range)
* **Median:**Calculate the median for **Sales Amount** and **Working Hours**.  
  =MEDIAN(range)
* **Mode:**Find the mode for **Sales Amount** and **Working Hours**.  
  =MODE.SNGL(range)
* **Range:**Calculate the range for **Sales Amount** and **Working Hours**.  
  =MAX(range) - MIN(range)
* **Variance:**Calculate both the **Sample Variance** and **Population Variance** for **Sales Amount**.  
  =VAR.S(range) for sample variance, =VAR.P(range) for population variance.
* **Standard Deviation:**Calculate both the **Sample Standard Deviation** and **Population Standard Deviation** for **Working Hours**.  
  =STDEV.S(range) for sample, =STDEV.P(range) for population.

**Analyse Relationships Between Variables:**

* **Covariance:**Calculate the covariance between **Sales Amount** and **Working Hours**.  
  =COVARIANCE.S(range1, range2)
* **Correlation:**Calculate the correlation between **Sales Amount** and **Working Hours**.  
  =CORREL(range1, range2)

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| **Measure** | **Sales Amount** | **Working Hours** |
| **Mean** | 2760 | 39.5 |
| **Median** | 2750 | 39.5 |
| **Mode** | NA | NA |
| **Range** | 1500 | 9 |
| **Variance (Sample)** | 242666.66 | 9.16 |
| **Variance (Population)** | 218400 | 8.25 |
| **Standard Deviation (Sample)** | 492.61 | 3.02 |
| **Standard Deviation (Population)** | 467.33 | 2.87 |
| **Covariance (Sales Amount & Working Hours)** | 944.44 |  |
| **Correlation (Sales Amount & Working Hours)** | 0.63 |  |