**1st VM Exercise**

**Dataset**

* Add datasets used to the datasets/ folder

**Files**

* **Initial**: Add file to the exercises/ folder with the name ex-1-intial.twbx or ex-1-intial.pbix or ex-1-initial.yxmd, depending if you are auditioning for a Tableau/Power BI/Alteryx course.
* **Solution**: Add file to the exercises/ folder with the name ex-1-sol.twbx or ex-1-sol.pbix or ex-1-sol.yxmd

**Learning Objective**

Create dropdown menus and multiple dependent lists to standardize data entry using the Coffee Shop Sales Dataset from Kaggle.com using the product\_category, product\_type, and product\_details fields.

**Context**

Understanding how to create Excel dropdown menus and dependent lists is essential for ensuring data accuracy and consistency across various applications. Dropdown menus restrict inputs to predefined options, significantly reducing errors associated with manual data entry. Dependent lists are particularly advantageous for managing hierarchical data, where one selection determines the available options for another. For example, in a coffee shop, selecting a drink type such as "Coffee" can filter specific drink options like "Latte" or "Espresso." This functionality streamlines workflows and enhances data quality in inventory management, customer orders, and reporting.

**Steps to be executed:**

• Step 1: Open your Excel worksheet, locate the required attributes, sort the data to discover the products in each category for Astoria, and enter the data in another worksheet where each category has its column.

• Step 2: Create a named range for each category by selecting the data range (e.g., all items under "Drinks") and naming it by clicking on Formulas, then on Create from Selection ensuring that only the top row is selected.

• Step 3: Go to the cell where you want the first dropdown menu, click on Data > Data Validation, and set the validation criteria to List, selecting the named range for the main category (e.g., "Drinks").

• Step 4: For the dependent list, use the INDIRECT function. Go to the cell for the dependent dropdown, click Data > Data Validation, and set the criteria to List, with the source as =INDIRECT(selected cell of the main category).

• Step 5: Test the dropdown menus to ensure that selecting an option in the first menu dynamically updates the options in the dependent menu.

• Step 6: Repeat the process as needed for additional layers of dependent lists.

**Exercise question:**

If the main dropdown selection is "Drink," which options appear in the dependent dropdown?  
a) Chocolate Chip, Oatmeal Raisin  
b) Coffee, Drinking Chocolate, Flavours, Tea  
c) Regular, Decaf, Iced

*Correct Answer: b)* Coffee, Drinking Chocolate, Flavours, Tea

**End goal:** After this exercise, students will have an Excel worksheet featuring functional dropdown menus that enable hierarchical data selection for product categories, product types, and product details. For example, selecting "Drink" in the first dropdown dynamically updates the second dropdown to show specific options such as "Coffee," "Drinking Chocolate," and "Tea." A third dropdown further refines the selection to detailed options like "Latte," "Cappuccino," or "Green Tea."

This finalized setup will simulate a streamlined, error-free data entry process, replicating real-world scenarios such as managing a coffee shop’s inventory or processing customer orders. The result will demonstrate mastery of data validation techniques, ensuring both efficiency and accuracy in data collection.

**Completed Exercise**

A screenshot of a computer

Description automatically generated

**2nd VM Exercise**

**Dataset**

* Add datasets used to the datasets/ folder

**Files**

* **Initial**: Add file to the exercises/ folder with the name ex-2-intial.twbx or ex-1-initial.yxmd, depending if you are auditioning for a Tableau/Power BI/Alteryx course.
* **Solution**: Add file to the exercises/ folder with the name ex-2-sol.twbx or ex-2-sol.pbix or ex-1-sol.yxmd

**Learning Objective**

Create drop down menus and a dependent list to standardize data entry using the Human Resources Data Set from Kaggle.com using the job\_title, category, and subcategory details fields.

**Context**

Learning how to create dropdown menus and dependent lists is crucial because it ensures consistency and accuracy in data entry. In real-life situations, these tools can be used in various administrative roles, such as managing inventory, customer databases, or financial records. By standardizing data entry, it minimizes errors, enhances data integrity, and saves time on data validation, ultimately leading to more efficient workflows and reliable data analysis.

**Steps to be executed:**

* Step 1: Open your Excel worksheet, locate the required attributes, sort the data in the required fields, and enter the results in another worksheet where each category has its column.
* Step 2: Create a named range for each category by selecting the data range (e.g., all items under "Accounting") and naming it by clicking on Formulas, then on Create from Selection ensuring that only the top row is selected.
* Step 3: Click on Formulas, then on Name Manager to ensure that all your categories are named correctly.
* Step 4: Go to the cell where you want the first dropdown menu, click on Data > Data Validation, and set the validation criteria to List, selecting the named range for the main category (e.g., "Accounting").
* Step 5: For the dependent list, use the INDIRECT function. Go to the cell for the dependent dropdown, click Data > Data Validation, and set the criteria to List, with the source as =INDIRECT(selected cell of the main category).
* Step 6: Test the dropdown menus to ensure that selecting an option in the first menu dynamically updates the options in the dependent menu.

**Exercise question:**

What will happen if you select the job category "Banking" in the first dropdown?

1. The second dropdown will show only subcategories related to "Banking."
2. The second dropdown will remain empty.
3. The second dropdown will show all subcategories.
4. The second dropdown will show an error.

*Correct Answer:* a) The second dropdown will show only subcategories related to "Banking."

**End goal:** The completed Excel file will feature a fully functional and user-friendly dependent dropdown menu system for job categories and their corresponding subcategories. Users will be able to seamlessly select a main job category, such as "Accounting" or "Customer Service," which will automatically filter relevant subcategory options like "Payroll" or "Call Center Management."

The result simulates a professional-grade data validation tool that ensures accuracy and consistency in data entry while reducing manual errors. The result will be an intuitive system that can be directly applied in HR processes, job application tracking, or workforce categorization—transforming complex, hierarchical data into an organized and streamlined format.

**Completed Exercise**

