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## Creating a Pivot Table from the Data Table

### Why Create a Pivot Table?

Pivot tables are incredibly useful for summarizing large amounts of data quickly and easily. They allow you to group, filter, and perform calculations on your data, providing valuable insights without needing complex formulas.

### Steps to Create a Pivot Table and Add Slicer, Filters, and Details

1. **Open the Excel File:**
   * Open your Excel file that contains the "Data" sheet.
2. **Select Your Data:**
   * Click on the "Data" sheet to view the data table.
   * Click anywhere inside the data table. Excel will automatically detect the range of your data.
3. **Insert a Pivot Table:**
   * Go to the "Insert" tab on the Excel ribbon.
   * Click on the "PivotTable" button.
   * In the "Create PivotTable" dialog box, you will see the table range selected automatically. Keep the default setting to place the pivot table in a new worksheet. Click "OK".
4. **Building Your Pivot Table:**
   * You will see the PivotTable Field List on the right side of the screen.
   * **For the Pivot Table:**
     + Drag and drop the **"Business Unit"** field to the Rows area.
     + Drag and drop the **"Department"** field to the Rows area below **"Business Unit"**.
     + Drag and drop the **"Annual Salary"** field to the Values area.
     + Drag and drop the **"Country"** field to the Filters area.
5. **Changing the Summary Function (e.g., from Sum to Average):**
   * Click on the drop-down arrow next to the "Sum of Annual Salary" in the Values area.
   * Select "Value Field Settings".
   * Choose the desired summary function (e.g., Average) and click "OK".
6. **Adding a Slicer for Gender:**
   * Click on the pivot table to activate the PivotTable Tools on the ribbon.
   * Go to the "Analyse" tab.
   * Click on the "Insert Slicer" button.
   * In the "Insert Slicers" dialog box, check the box for **"Gender"** and click "OK".
   * A slicer for gender will appear, allowing you to filter the pivot table by gender.
7. **Creating Separate Filter Pages for Each Country:**
   * Click on the pivot table to activate the PivotTable Tools on the ribbon.
   * Go to the "Analyse" tab.
   * Click on the "Options" drop-down button and select "Show Report Filter Pages".
   * In the dialog box that appears, ensure that **"Country"** is selected and click "OK".
   * Excel will create a separate worksheet for each country, showing the pivot table with business unit and annual salary.
8. **Adding Department to the Details in the Pivot Table:**
   * In the PivotTable Field List, drag and drop the **"Department"** field to the Rows area below **"Business Unit"**.
   * This will add a secondary level of detail, showing annual salary broken down by both business unit and department.
9. **Customize Your Pivot Table:**
   * Use the "Design" and "Analyse" tabs on the Excel ribbon to further customize the appearance and functionality of your pivot table.

## Recommended Visualizations for Your Data

### Bar Chart for Business Unit and Department Annual Salary:

* + **Purpose:** Compare annual salaries across different business units and departments.
  + **How to Create:**
    - Use the pivot table with Business Unit and Department in Rows and Annual Salary in Values.
    - Select the data range of the pivot table.
    - Go to the "Insert" tab and select "Bar Chart".
  + **Customizations:**
    - Add data labels to show the exact annual salary figures.
    - Use different colours to differentiate between business units and departments.

### Pie Chart for Gender Distribution of Annual Salary:

* + **Purpose:** Show the proportion of annual salary by gender.
  + **How to Create:**
    - Use the pivot table with Gender in Rows and Annual Salary in Values.
    - Select the data range of the pivot table.
    - Go to the "Insert" tab and select "Pie Chart".
  + **Customizations:**
    - Add data labels to show percentages.
    - Use distinct colours for different genders.

### Line Chart for Annual Salary Over Time:

* + **Purpose:** Visualize trends in annual salary over a period of time.
  + **How to Create:**
    - Use the pivot table with Hire Date in Rows and Annual Salary in Values.
    - Select the data range of the pivot table.
    - Go to the "Insert" tab and select "Line Chart".
  + **Customizations:**
    - Add markers to show specific data points.
    - Use a trendline to highlight overall trends.

## Cleaning the Promote Table with Power Query (Desktop Excel)

### Why Clean Your Data?

Cleaning your data is a crucial step in preparing it for analysis. It ensures the accuracy, consistency, and reliability of your data, which in turn improves the quality of your analysis and insights.

### Steps for Cleaning the Promote Table:

1. **Open the Excel File:**
   * Open your Excel file that contains the "Promote" sheet.
   * Select any cell in the data range.
2. **Load Data into Power Query:**
   * Go to the "Data" tab on the Excel ribbon.
   * In the "Get & Transform Data" group, click on the "From Table/Range" button. This will open the Power Query Editor with your data loaded.
3. **Remove Top Row:**
   * The first row might be empty and unnecessary. To remove it, click on the top-left cell of the table, then right-click, select "Remove Rows" > "Remove Top Rows", and specify to remove the first row.
4. **Promote First Row to Headers:**
   * Promote the first row to headers by going to the "Home" tab and clicking "Use First Row as Headers".
5. **Remove Empty Column:**
   * If there is an empty column at the end, select it by clicking on the column header, then right-click and choose "Remove Columns".
6. **Fill Down Division Names:**
   * Select the column that contains the division names (the first column).
   * Go to the "Transform" tab on the ribbon.
   * Click on the "Fill" button, and then select "Down" from the drop-down menu. This will fill the null values with the last non-null value above them.

Done!