

Cochise College Center for Lifelong Learning

Excel: Advanced

For Lifelong Learners

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Introduction

Welcome to Excel: Advanced! This course is designed for learners who already feel comfortable with basic formulas, formatting, and spreadsheet organization, and are now ready to explore Excel's most powerful tools. In this hands-on session, you'll work with real-world business data to build PivotTables, analyze trends, and create dynamic dashboards.

You'll discover how to summarize large datasets, group and filter results interactively, and design visual tools that communicate insights clearly and effectively. Whether you're managing projects, evaluating department performance, or building decision-making tools, the techniques in this course will help you unlock Excel's full potential.

What You Need

Before starting this course, you should be comfortable with:

- Creating and formatting basic Excel spreadsheets
- Writing simple formulas (SUM, AVERAGE, COUNT)
- Organizing data in tables
- Basic chart creation

If you need to review these skills, consider taking our Excel: Fundamentals and Excel: Intermediate courses first.

Learning Goals

By the end of this session, you will:

- Import and clean raw data for professional analysis
- Create powerful PivotTables to summarize complex datasets
- Build interactive slicers and timelines for dynamic filtering
- Design PivotCharts that clearly communicate trends and patterns
- Construct professional dashboards combining tables, charts, and key metrics
- Use AI tools like Microsoft Copilot to analyze data through conversation

What Makes This Course Special

This isn't just about learning Excel features—it's about developing data analysis skills that will serve you in any professional setting. You'll work with realistic business scenarios, practice with actual datasets, and create deliverables you could confidently share with colleagues or supervisors.

Module 1: Import and Prepare Data

Before you can create powerful analyses in Excel, you must start with clean, reliable data. In this module, you'll practice importing a raw CSV file and preparing it for use. You'll fix formatting issues like extra spaces and inconsistent capitalization, fill missing values, and create new calculated fields that will set the foundation for your PivotTables and Dashboards.

These steps are essential to ensure that your future analyses are accurate, trustworthy, and professional. Whether you're working with small lists or large business datasets, mastering these preparation skills is critical for producing results you can confidently share and act upon.

Activity 1.1: Import and Clean Data

Getting Started

1. Start Excel and click **Blank Workbook**.
2. Click File → Save As → Browse.
3. Navigate to the *Student Files* folder and save it with the name **30-Pivot**.
4. Click Data → Get & Transform Data → Get Data → From File → From Text/CSV.
5. Navigate to **30-data.csv** and click **Import**.
6. Excel will start a wizard to import CSV data.
7. Because the data has some errors, click the **Transform Data** button at the bottom of the dialog box.
 - a. To remove excess spaces and correct inconsistent capitalization, **[Ctrl]+click** the header for all text fields. (Tip: the text columns are identified by an ABC icon in the header.)
 - b. Click Transform → Text Column → Format → Trim.

- c. Click Transform → Text Column → Format → Capitalize Each Word.
 - d. Click Home → Close & Load.
8. Close the *Queries & Connections* panel by clicking the **X** in the top right corner of that panel.
9. Follow these steps to complete the cleaning process.
 - a. Click Table Design → Properties → Table Name and enter **Data**.
 - b. Click in **E1** and insert a space between *Hire* and *Date*.
 - c. Click in **H1** and insert a space between *Marital* and *Status*.
 - d. Click in **J1** and insert a space between *Product* and *Line*.
 - e. Click in **N1** and insert a space between *Fuel* and *Cost*.
 - f. Click the *Department* down arrow and select **It**.
 - g. Change the department in **D12** to **IT** (capital letters) then autofill that down to **D38**.
 - h. Click the *Department* down arrow and **Select All** then click **OK**.
 - i. Click Table Design → Table Style Options → Check Total Row.
 - j. Select **Average** for *Sales*.
 - k. Copy the average sales and paste that value into all missing values. Note, right-click on the empty cell and select **Paste-Values** (the icon is a clipboard with 123).
 - l. Complete the same process to fill the missing values for *Expenses* and *Fuel Cost*.
10. Click the headers to select *Columns K, L, and N*.
11. Click Home → Number → Comma.
12. Click Table Design → Table Style Options → Uncheck Total Row.
13. Right-click the *Sheet2* tab (it's 30-Data on Office 365) at the bottom of the worksheet and choose **Rename** from the pop-up menu.
14. Enter **Data** as the new name for this tab.
15. Right-click the *Sheet1* tab and choose **Delete** from the pop-up menu.

16. Save the workbook.

Module 1 Checklist

By the end of this module, you should be able to:

1. Import a CSV file into Excel
2. Clean text fields by trimming spaces and standardizing capitalization
3. Correct column names and ensure consistent field labels
4. Fill missing values with calculated averages
5. Format numeric fields for better readability
6. Prepare a structured Excel table for PivotTable analysis

Module 2: PivotTables and Slicers

With clean, organized data in place, it's time to unlock Excel's true power: analyzing and summarizing information with PivotTables. In this module, you'll create PivotTables to explore sales, expenses, and staffing patterns, use calculated fields to add new insights, and build slicers and timelines to make your tables interactive.

PivotTables are one of Excel's most valuable tools for finding trends, answering questions, and supporting decisions. By mastering these techniques, you'll be able to quickly summarize large datasets and customize your analysis with just a few clicks.

Activity 2.1: The Profit PivotTable

⚙️ Step 1: Getting Started

1. Tap **[Ctrl]+[Home]**.
2. Click Insert → Tables → PivotTable.
3. Ensure **New Worksheet** is selected as the location of the new pivot table.
4. Click **OK**.
5. A pivot table is created on a new worksheet. Rename that sheet **Profit**.
6. Move the *Profit* worksheet to the right of *Data*.
7. Click PivotTable Analyze → PivotTable and enter **Profit** as the name.

💰 Step 2: The Sales Field

1. Drag and drop **Department** from the *Field List* to the *Rows* area.
2. Drag and drop **Sales** from the *Field List* to the *Values* area.
3. Drag and drop **Location** from the *Field List* to the *Columns* area.
4. Click the checkbox for *Location* to remove it from the *Columns* area.
5. Drag and drop **Product Line** from the *Field List* to the *Columns* area.
6. Click the checkbox for *Product Line* to remove it from the *Columns* area.
7. Click **Sum of Sales** in the *Values Area* and select **Value Field Settings**.
8. Click the **Number Format** button.
9. Select **Accounting** with 0 decimal places.
10. Click **OK** two times.
11. Save the workbook.

Step 3: The Expenses Field

1. Drag and drop **Expenses** from the *Field List* to the *Values* area.
2. Click **Sum of Expenses** in the *Values Area* and select **Value Field Settings**.
3. Click the **Number Format** button.
4. Select **Accounting** with 0 decimal places.
5. Click **OK** two times.
6. Drag and drop **Product Line** from the *Field List* to the *Rows* area.
7. Right-click **A4** (the first data cell), then Expand/Collapse → Collapse Entire Field. Collapsing a field clears the details from the screen and makes it easier to analyze the “big picture.”
8. Save the workbook.

Step 4: Calculate Net Profit

1. Click PivotTable Analyze → Calculations → Fields, Items & Sets → Calculated Field.
2. Name the field: **Net Profit**.
3. In the formula box, remove the 0.
4. Double-click **Sales** in the *Fields* selector box.

5. Enter a minus sign: -
 6. Double-click **Expenses** in the *Fields* selector box. The *Formula* should read: **=Sales-Expenses**
 7. Click **OK**.
 8. Click **Sum of Net Profit** in the *Values* area.
 9. Select **Value Field Settings**.
 10. Click the **Number Format** button.
 11. Choose **Accounting** with **0** decimal places.
 12. Click **OK** two times.
 13. Save the workbook.
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▼ Step 5: Insert a Slicer

1. Click **A4** (the first data cell).
2. Click PivotTable Analyze → Filter → Insert Slicer.
3. In the *Insert Slicers* dialog box, click **Department** and **OK**.
4. Adjust the slicer's size and location so it is beside the PivotTable without overlapping it.
5. On the *Department* slicer, click **IT**.
6. On the *Department* slicer, **[Ctrl]+click** Marketing.
7. Click the **Clear Filter** button at the top left corner of the slicer.
8. Save the workbook.

Activity 2.2: The Locations PivotTable

Locations Pivot

1. Click on the *Data* tab at the bottom of the page to open that worksheet.
2. Tap **[Ctrl]+[Home]**.
3. Click Insert → Tables → PivotTable.
 - a. Ensure **New Worksheet** is selected as the location of the new pivot table.

- b. Click **OK**.
- c. A pivot table is created on a new worksheet. Rename that sheet **Locations**.
- d. Move the *Locations* worksheet to the right of *Profit*.
- e. Click PivotTable Analyze → PivotTable and enter **Locations** as the name.
4. Drag and drop **Location** from the *Field List* to the *Rows* area.
5. Drag and drop **Department** from the *Field List* to the *Rows* area.
6. Drag and drop **Product Line** from the *Field List* to the *Columns* area.
7. Drag and drop **Expenses** from the *Field List* to the *Values* area.
8. Click **Sum of Expenses** in the *Values* area and select **Value Field Settings**.
9. Select **Average** and click **OK**.
10. Right-click **A5** then Expand/Collapse → Collapse Entire Field.
Collapsing a field clears the details from the screen and makes it easier to analyze the “big picture.”
11. Save the workbook.

Activity 2.3: The Fuel Use PivotTable

Step 1: Fuel Pivot

1. Click on the *Data* tab at the bottom of the page to open that worksheet.
2. Tap **[Ctrl]+[Home]**.
3. Click Insert → Tables → PivotTable.
 - a. Ensure **New Worksheet** is selected as the location of the new pivot table.
 - b. Click **OK**.
 - c. A pivot table is created on a new worksheet. Rename that sheet **Fuel**.
 - d. Move the *Fuel* worksheet to the right of *Locations*.
 - e. Click PivotTable Analyze → PivotTable and enter **Fuel** as the name.
4. Drag and drop **Hire Date** from the *Field List* to the *Rows* area.

5. Drag and drop **Expenses** from the *Field List* to the *Values* area.
6. Drag and drop **Fuel Cost** from the *Field List* to the *Values* area.
7. Click cell **A4** then PivotTable Analyze → Group → Group Field.
8. Click **Months** to unselect that item then **OK**.
9. Right-click **A4** then Expand/Collapse → Collapse Entire Field.
Collapsing a field clears the details from the screen and makes it easier to analyze the “big picture.”
10. Save the workbook.

% Step 2: Calculate Fuel as a Percentage of Expenses

1. Click PivotTable Analyze → Calculations → Fields, Items & Sets → Calculated Field.
2. Name the field: **Fuel As %**.
3. In the formula box, remove the **0**.
4. Double-click **Fuel Cost** in the *Fields* selector box.
5. Enter a division sign: **/**
6. Double-click **Expenses** in the *Fields* selector box.
7. Click **OK**.
8. Click **Sum of Fuel As %** in the *Values* area.
9. Select **Value Field Settings**.
10. Click the **Number Format** button.
11. Choose **Percentage** with **2** decimal places.
12. Click **OK** two times.
13. Save the workbook.

🕒 Step 3: Insert a Timeline

1. Click PivotTable Analyze → Filter → Insert Timeline.
2. In the *Insert Timelines* dialog box, click **Hire Date** and **OK**.
3. Move the timeline to the right of the PivotTable so it does not overlap the data.
4. Click Timeline → Show → Uncheck Header.

5. Explore the timeline to limit the data displayed in the PivotTable.
6. On the *Timeline*, click the **Clear Filter** button at the top left corner.
7. Save the workbook.

Activity 2.4: The Fuel Trend PivotTable

Fuel Trend Pivot

1. Click on the *Data* tab at the bottom of the page to open that worksheet.
2. Tap **[Ctrl]+[Home]**.
3. Click Insert → Tables → PivotTable.
 - a. Ensure **New Worksheet** is selected as the location of the new pivot table.
 - b. Click **OK**.
 - c. A pivot table is created on a new worksheet. Rename that sheet **Trend**.
 - d. Move the *Trend* worksheet to the right of *Fuel*.
 - e. Click PivotTable Analyze → PivotTable and enter **Trend** as the name.
4. Drag and drop **Hire Date** from the *Field List* to the *Rows* area.
5. Drag and drop **Fuel Cost** from the *Field List* to the *Values* area.
6. Click cell **A4** then PivotTable Analyze → Group → Group Field.
7. Ensure **Months** is not selected then click **OK**.
8. Right-click **A4** then Expand/Collapse → Collapse Entire Field. Collapsing a field clears the details from the screen and makes it easier to analyze the “big picture.”
9. Note: the fuel trend will be evident after completing a PivotChart in a later exercise.
10. Save the workbook.

Activity 2.5: The Age PivotTable

Grouping in Bins

1. Click on the *Data* tab at the bottom of the page to open that worksheet.
2. Tap **[Ctrl]+[Home]**.
3. Click Insert → Tables → PivotTable.
 - a. Ensure **New Worksheet** is selected as the location of the new pivot table.
 - b. Click **OK**.
 - c. A pivot table is created on a new worksheet. Rename that sheet **Age**.
 - d. Move the *Age* worksheet to the right of *Trend*.
 - e. Click PivotTable Analyze → PivotTable and enter **Age** as the name.
4. Drag and drop **Age** to the *Rows* area.
5. Drag and drop **Age** to the *Values* area.
6. Click **Age** in the *Values* area.
7. Select **Value Field Settings**.
8. Choose **Count**.
9. Rename the field **Number Per Group**.
10. Click **OK**.
11. Click in **A4** (the first row in the PivotTable).
12. Click PivotTable Analyze → Group → Group Selection.
13. By default, Excel starts at the smallest value and ends at the largest value then selects a reasonable value for the size of each band. Accept all default values and click **OK**.
14. Save the workbook.

Module 2 Checklist

By the end of this module, you should be able to:

1. Create PivotTables to summarize key business metrics

2. Group, collapse, and expand fields for better organization
3. Add calculated fields to extend PivotTable analysis
4. Format PivotTable values for clarity
5. Insert and customize slicers and timelines to filter data interactively
6. Analyze trends and patterns across departments, locations, and time periods

Module 3: PivotCharts and Dashboards

PivotTables are powerful, but great visuals can make your insights even clearer. In this module, you'll transform your PivotTables into PivotCharts, helping your audience see trends, comparisons, and key metrics briefly. You'll also build an interactive dashboard that brings charts, slicers, and KPIs together into a single, polished view.

Dashboards are especially valuable when you need to present complex data in a simple, professional format. By the end of this module, you'll know how to create dynamic reports that are easy to update and impressive to share.

Before We Begin...

In this final module, you'll bring together everything you've built so far into a single, polished dashboard. The roadmap below outlines the major steps you'll follow. Use it as a guide to stay on track while creating your visual summary.

Dashboard Roadmap: Creating a Visual Summary in Excel

Dashboards combine tables, charts, and slicers into one easy-to-read worksheet. Follow these steps to build your professional dashboard:

Step 1: Set Up Dashboard Sheet

- Add new worksheet named "Dashboard"
- Turn off gridlines, add title shape

DONE: Clean canvas ready

Step 2: Add PivotTable

- Copy Profit PivotTable to Dashboard
- Position for professional layout

DONE: Core data summary in place

Step 3: Add Charts

- Copy PivotCharts to Dashboard
- Arrange beside or below table

DONE: Visual trends displayed

🔿 Step 4: Add Slicers

- Insert slicers for interactive filtering
- Position next to charts

DONE: Interactive controls ready

🕒 Step 5: Add Key Metrics

- Create text boxes for important numbers
- Use formulas to pull live data

DONE: Key performance indicators highlighted

Tips: Keep layout simple, align elements neatly, slicers control all linked items automatically.

Activity 3.1: Create PivotCharts

⚙️ Step 1: Getting Started

1. Click the *Locations* worksheet tab to open that PivotTable.
 2. Click in **A5**, the first data cell.
 3. Click PivotTable Analyze → Tools → PivotChart.
 4. In the *Insert Chart* dialog box, select **Column → Clustered Column**.
 5. Click **OK**. A chart is added to the worksheet.
 6. Move the chart to a clear area of the worksheet.
 7. Save the workbook.
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📊 Step 2: Modify the Location Expenses Chart

1. Click the chart to select it.
2. Click the Chart Design tab.
3. Click **Change Colors** and choose any color palette you like.
4. Click **Chart Elements** (the plus sign at the upper-right of the chart).
5. Ensure the following elements are checked, all others should be unchecked:
 - a. **Axis**
 - b. **Axis Titles**

- c. **Chart Title**
 - d. **Data Table**
 - e. **Grid Lines**
6. Triple-click the following elements and change them to meaningful labels:
- a. *Chart Title*: **Average Expenses by Location**
 - b. Horizontal Axis: **Department**
 - c. Vertical Axis: **Expenses**
7. Resize the chart to make it easier to read.
8. Save the workbook.
-

Step 3: Start the Fuel Cost Chart

1. Click the *Trend* worksheet tab to open that PivotTable.
 2. Click in **A4**, the first data cell.
 3. Click PivotTable Analyze → Tools → PivotChart.
 4. In the *Insert Chart* dialog box, select **Line**.
 5. Click **OK**. A chart is added to the worksheet.
 6. Move the chart to a clear area of the worksheet.
 7. Save the workbook.
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Step 4: Modify the Fuel Cost Chart

1. Click the chart to select it.
2. Click the Chart Design tab.
3. Click **Change Colors** and choose any color palette you like.
4. Click **Chart Elements** (the plus sign at the upper-right of the chart).
5. Ensure the following elements are checked, all others should be unchecked:
 - a. **Axis**
 - b. **Axis Titles**
 - c. **Chart Title**
 - d. **Data Table**

e. Grid Lines

6. Triple-click the following elements and change them to meaningful labels:
 - a. *Chart Title*: **Fuel Cost by Quarter**
 - b. Horizontal Axis: **Period**
 - c. Vertical Axis: **Cost in \$**
7. Resize the chart to make it easier to read.
8. Save the workbook.

Activity 3.2: Build a Basic Dashboard**⚙️ Step 1: Getting Started**

1. Click the plus (+) icon at the bottom of the workbook to add a new worksheet.
2. Rename the new worksheet **Dashboard**.
3. Drag the *Dashboard* tab to the far left, making it the first tab.
4. In the Dashboard sheet, click View → Show → Uncheck Gridlines.
5. Click Insert → Illustrations → Shapes → Choose Rectangle.
6. Draw a rectangle between *Columns C* and *H* between *Rows 1* and *3* (the exact size and placement can be adjusted later).
7. Double-click the rectangle and enter **Company Overview**.
8. Triple-click the text then Home → Font → Size 16.
9. Click Home → Font → Font Color → White.
10. Click Home → Alignment → Center.
11. Click Home → Alignment → Middle.
12. Save the workbook.

📊 Step 2: The Profit Table

1. Click the *Profit* tab.
2. Click in **A4**.

3. Click PivotTable Analyze → Actions → Select → Entire Pivot Table.
 4. Click Home → Clipboard → Copy. (Keyboard shortcut: **[Ctrl]+C**.)
 5. Click **B5** in the *Dashboard* tab.
 6. Click in an open area, then Home → Clipboard → Paste → Down Arrow → Keep Source Column Widths.
 7. Save the workbook.
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Step 3: The Departments PivotChart

1. Click the *Locations* tab.
 2. Click in the *PivotChart* to select it.
 3. Click Home → Clipboard → Copy. (Keyboard shortcut: **[Ctrl]+C**.)
 4. Click **F5** in the *Dashboard* tab.
 5. Click in an open area, then Home → Clipboard → Paste → Down Arrow → Keep Source Formatting.
 6. Move the PivotChart slightly to the right to insert blank space between it and the PivotTable.
 7. Close the *PivotChart Fields* panel by clicking the **X** in its top-right corner.
 8. Click the chart then resize and reposition it beside the PivotTable.
 9. With the PivotChart selected, click PivotChart Analyze → Filter → Insert Slicer.
 10. Select **Location** and click **OK**.
 11. Move the slicer to the right of the chart and resize as needed.
 12. Save the workbook.
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Step 4: The Fuel Cost Trend PivotChart

1. Click the *Trend* tab.
2. Click in the *PivotChart* to select it.
3. Click Home → Clipboard → Copy. (Keyboard shortcut: **[Ctrl]+C**.)
4. Click **B13** in the *Dashboard* tab.
5. Click in an open area, then Home → Clipboard → Paste → Down Arrow → Keep Source Formatting.

6. Click the chart then resize and reposition it so it does not overlap the *Average Expenses by Location* PivotChart.

7. Save the workbook.

Step 5: Employee Count

1. On the Dashboard tab, click cell **I3** (that is the letter I and the Number 3).

2. Enter **Employees:**

3. Double-click between the *Columns I* and *J* header to autosize *Column I*.

4. Click in **J3**.

5. Enter **=COUNTA(Data[EmployeeID])**

6. Click Home → Alignment → Right.

7. Select **I3:J3** then Home → Font → Bold. (Keyboard shortcut: **[Ctrl]+[B]**.)

8. Save the workbook.

Step 6: Total Fuel Cost

1. On the *Dashboard* worksheet.

2. Click Insert → Text → Text Box.

3. Draw a text box in **B11:C12** (the exact size and location is not important).

4. Label the text box: **Total Fuel Cost**.

5. Format the text box with bold, size 14 font.

6. Click Shape Format → Shape Outline → No outline.

7. Select **D11:D12**.

8. Click Home → Alignment → Merge & Center.

9. In **D11**, enter: **=GETPIVOTDATA("Fuel Cost", Fuel!\$A\$3)**

10. Format the *Total Fuel Cost* number as **Comma**.

11. Left-align and Middle-align cell *D11*.

12. Reposition the text box so it is just left of the calculated value and resize it to about the same size as the data cell.

13. Save the workbook.

Module 3 Checklist

By the end of this module, you should be able to:

1. Create PivotCharts to visually represent PivotTable data
2. Format charts with titles, labels, and custom styles
3. Build an interactive dashboard combining PivotTables, PivotCharts, slicers, and KPIs
4. Arrange and format dashboard elements for a professional layout
5. Use GETPIVOTDATA formulas to highlight key performance metrics

Module 4: Ask the Analyst

You've built dashboards and explored Excel's most powerful tools. Now it's time to meet your virtual assistant: Microsoft Copilot. In this activity, you'll use AI to analyze a dataset by simply pasting it into a conversation and asking questions. No formulas. No charts. Just insights.

Even without uploading files, Copilot can interpret spreadsheet data you paste into the chat. In this exercise, you'll work with a small financial dataset to explore trends, calculate averages, and investigate performance across regions and products.

Activity 4.1: Analyze a Dataset

1. Right-click the file **33-data.csv** in the *Student Files* folder.
2. Select **Edit in Notepad**.
3. Press **[Ctrl]+[A]** to select all the data, then press **[Ctrl]+[C]** to copy.
4. Open <https://copilot.microsoft.com> in your web browser.
5. Right-click in the chat box and select **Paste** (or press **[Ctrl]+[V]**).
6. Press **[Enter]**.
7. Once *Copilot* recognizes the data, try the sample questions below or come up with your own.
8. Simple Questions
 - a. What is the total profit for each region?
 - b. Which product had the highest total sales?
 - c. What was the average monthly sales for each region?

- d. Which region had the lowest expenses overall?
- e. Can you show a summary of profit by product and region?

9. Questions requiring more detailed analysis

- a. What product shows signs of declining sales across regions? Could this be seasonal or region-specific?
- b. Which region had rising expenses even when sales were stable or declining?
- c. Identify the top-performing product in each region based on profit margins, not just total profit.
- d. Are there any months where fuel costs appear to reduce overall profit significantly?
- e. Draw a chart showing the overall profit for each region.
- f. Draw a chart showing the variability in profit for each product over the year.
- g. Can you suggest three actions the company could take to improve profits next quarter?

10. Follow-up Questions

- a. Why do you think that's happening?
- b. What would you recommend based on this trend?

Final Words

Congratulations on completing Excel: Advanced! You've come a long way, from organizing basic spreadsheets to building powerful PivotTables, designing dynamic PivotCharts, and creating polished dashboards that deliver insights briefly. These skills are essential for managing large datasets, identifying trends, and making data-driven decisions in any professional setting.

Although this class marks the end of our three-part Excel series, it doesn't have to be the end of your learning journey. Excel offers even more powerful tools—from advanced formulas and macros to automation and integration with other applications. As you continue practicing, stay curious, keep experimenting, and don't be afraid to explore new features.

The tools you've learned here can help you work smarter, solve problems faster, and present information more clearly than ever before. Thank you for being part of this course. I look forward to seeing where your Excel skills will take you next!

Appendix A: Pivot Tables and Charts

To practice PivotTable and PivotChart skills, complete this employee analysis.

Activity 4.2: Load the Dataset

1. Start Excel and click **Blank Workbook**.
2. Click File → Save As → Browse.
3. Navigate to the *Student Files* folder and save it with the name **36-Employee**.
4. Click Data → Get & Transform Data → Get Data → From File → From Text/CSV.
5. Navigate to **36-data.csv** and click **Import**.
6. The data does not need any modification, so click **Load**.
7. Close the *Queries & Connections* panel.
8. Delete *Sheet1*.
9. Rename the *Sheet 2* tab (called *36-Data* in Excel 365) to **Employee Data**.
10. Save the workbook.

Activity 4.3: Average Salary PivotTable

1. Create a pivot table on a new worksheet and name that worksheet **Avr Salary**. Move the worksheet to the right of *Employee Data*.
2. List the roles in the business (like Accounting and Associate), the number of people and average salary for each role. Hint: the *Role* field should be dragged to both the *Rows* and *Values* areas.
3. The *Salary* field should be changed from sum to average, and it should also be formatted as accounting with two decimal places and no symbol.
4. Right-click C4 and sort the list to make the highest salary first.
5. Save the workbook.

Activity 4.4: Average Age PivotTable

1. Click **A1** in the *Employee Data* worksheet and create a pivot table on a new worksheet.
2. Name the worksheet **Avr Age** and move it to the right of *Avr Salary*.
3. The pivot table should list the average age by marital status (rows) and sex (columns).
4. The average age should be renamed Average Age and formatted as a number with zero decimal places.
5. Click D4.
6. Using the formula bar, change the value to **Avr Age**.
7. Save the workbook.

Activity 4.5: Year Hired PivotTable

1. Click **A1** in the *Employee Data* worksheet and create a pivot table on a new worksheet.
2. The worksheet should be named **Year Hired** and moved to the right of *Avr Age*.
3. The pivot table should list the employee count by year hired. (Hint: count the username field since each employee has a unique username.)
4. The username field should be labeled **Count**.
5. The hired field should display only years, not quarters or months.
6. The list should be sorted by year, with 2007 first (this is the default).
7. Save the workbook.

Activity 4.6: Count by Role PivotChart

1. Click **A1** in the *Employee Data* worksheet and create a pivot chart on a new worksheet.
2. The worksheet should be named **Count by Role Chart** and moved to

the right of *Year Hired*.

3. The pivot table should show the count by role. (Hint: count the username field since each employee has a unique username.)
4. The *Count of username* field should be labeled **Count by Role**.
5. Create a Clustered Column PivotChart for this PivotTable.
6. Change the chart title to **Count by Role**.
7. The data should be sorted such that the role with the most employees (Associate) should be first.
8. Save and close the workbook.

Appendix B: Copilot

To practice more with Copilot, try this activity.

Activity 4.7: Analyze a Dataset

1. Right-click the file **38-data.csv** in the *Student Files* folder.
2. Select **Edit in Notepad**.
3. Press **[Ctrl]+[A]** to select all the data, then press **[Ctrl]+[C]** to copy.
4. Open <https://copilot.microsoft.com> in your web browser.
5. Right-click in the chat box and select **Paste** (or press **[Ctrl]+[V]**).
6. Press **[Enter]**.
7. Once *Copilot* recognizes the data, try the sample questions below or come up with your own.
8. Simple Questions
 - a. What is the average attendance by event type?
 - b. Which location had the highest average satisfaction rating?
 - c. How many events were held for each topic?
 - d. What is the total number of attendees per location?
 - e. Which topic had the lowest satisfaction score overall?

9. Questions requiring more detailed analysis

- a. Which event type consistently draws high attendance and high satisfaction—making it ideal for scaling up next quarter?
- b. What mix of topics and formats would you recommend for each location to maximize reach and engagement?
- c. Which types of events tend to underperform in terms of both attendance and satisfaction, and should be revised or discontinued?
- d. Are there any correlations between event type and satisfaction score? What might explain those patterns?
- e. If you could only host three events next quarter, what would they be and why?
- f. Create a graph showing the average attendance by location.
- g. Can you suggest an optimized calendar of events for next quarter based on past performance?

10. Follow-up Questions

- a. Why do you think that's happening?
- b. What would you recommend based on this trend?