SRC Week 1 Student Exercises

Introduction to Data Analytics

Course	Excel and Power BI in 10 Weeks
Week	Week 1 Introduction to Data Analytics
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For	Students

This workbook takes you through one complete, fictional Campus Cafe task. You will frame a useful question, calculate sales in Excel, and turn the same table into an interactive Power BI report. Work at your own pace, pause after each checkpoint, and save often.

Start here

- ☐ Download SRC_Week_01_Starter.xlsx from the Week 1 course website.
- ☐ Check that Microsoft Excel and Power BI Desktop open on your computer.
- ☐ Create a Week 1 folder and keep this PDF open beside the software, or print it.
- ☐ Use the interactive lesson for narration and demonstrations; this PDF is your task sheet.

Your finish line

- A completed Excel workbook with 50 correct Sales Value formulas.
- A Power BI report with a campus column chart, total-sales card, and category slicer.
- A short conclusion that includes a finding, an action, a limitation, and one useful extra field.

Working safely The Campus Cafe dataset is fictional. Do not add real student, customer, or staff details.

Learning from mistakes If a check fails, use the message to find one next fix. You do not need to restart the whole task.

Activity 1 Understand the question

SRC runs a fictional cafe at five campuses: Armagh, Banbridge, Lurgan, Newry, and Portadown. The cafe supervisor wants a quick view of sales from 1 to 10 September 2026 to help plan stock and staffing.

Use the five context questions

Question	Your answer
What do we need to understand?	
Why does it matter?	
Who will use the result?	
Where was the data collected?	
When does the data cover?	

Choose the analysis type

The report will summarise sales that have already happened. Circle one: descriptive / diagnostic / predictive / prescriptive

In one sentence, explain why your choice fits the task

Pause and check

- ☐ Your answers describe a decision, not just a chart.
- ☐ Who means the person using the result; it does not mean collecting personal data.
- ☐ You can explain the difference between what happened and why it happened.

Activity 2 Recognise the data

Choose categorical, numerical, or date for each field. Add nominal, ordinal, discrete, or continuous where it helps. A number is not automatically numerical data: sometimes it is a label or an ordered category.

Field	Main type	More detail
Transaction ID		
Date		
Campus		
Product Category		
Units Sold		
Unit Price		
Payment Method		
Customer Rating 1 to 5		
Sales Value		

Quick check

A. Customer Rating uses the values 1 to 5. Why is ordinal a better description than a measured amount?

Write one sentence: _____

B. Which field uniquely identifies a row but should not be added or averaged?

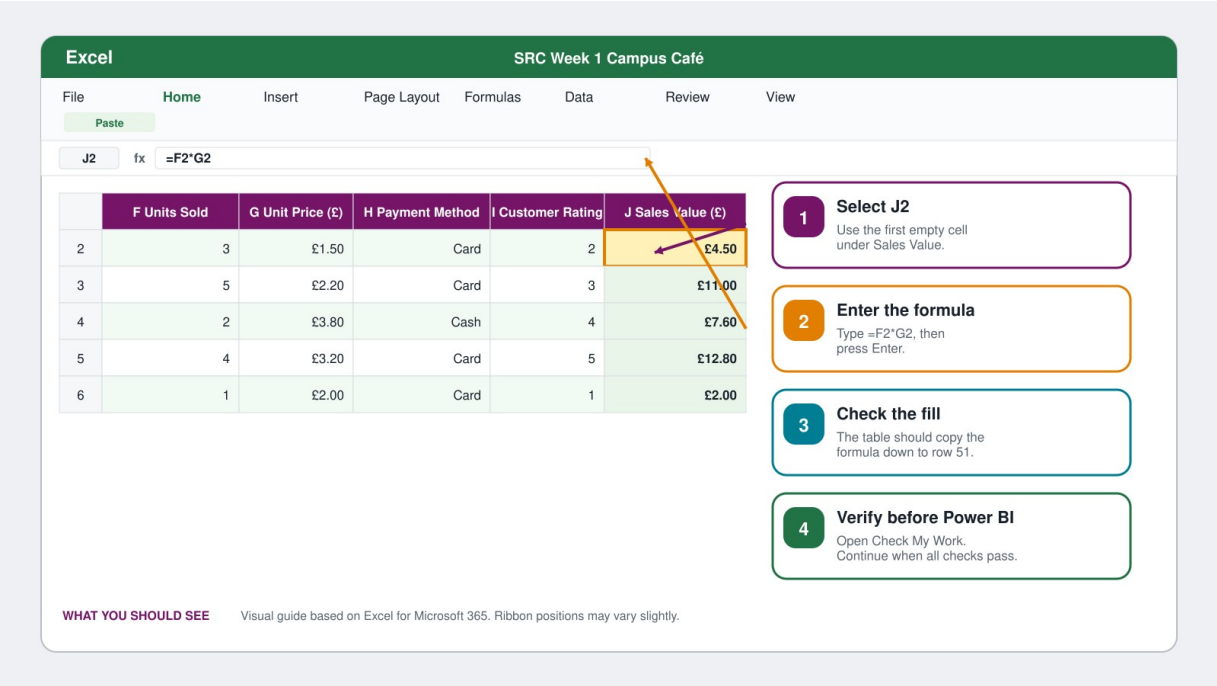
Answer: _____

What this protects you from

Correct field roles prevent misleading totals and charts. For example, adding transaction identifiers would produce a meaningless result, while summing Sales Value answers a real business question.

Activity 3 Prepare the data in Excel

Open SRC_Week_01_Starter.xlsx and select Sales Data. The yellow Sales Value column is intentionally incomplete.



What you should see in Excel. Button positions may vary slightly by version.

1 Create Sales Value

Click J2, enter =F2*G2, and press Enter. If the table does not fill automatically, copy the formula down to J51.

2 Format and inspect

Apply Pound Sterling with two decimal places to Unit Price and Sales Value. Use a clear date format. Sort Sales Value largest to smallest, then clear the sort if you wish.

3 Filter and highlight

Filter Campus to Newry, then clear the filter so all 50 rows return. Highlight ratings of 4 or 5 with simple conditional formatting.

4 Calculate a total

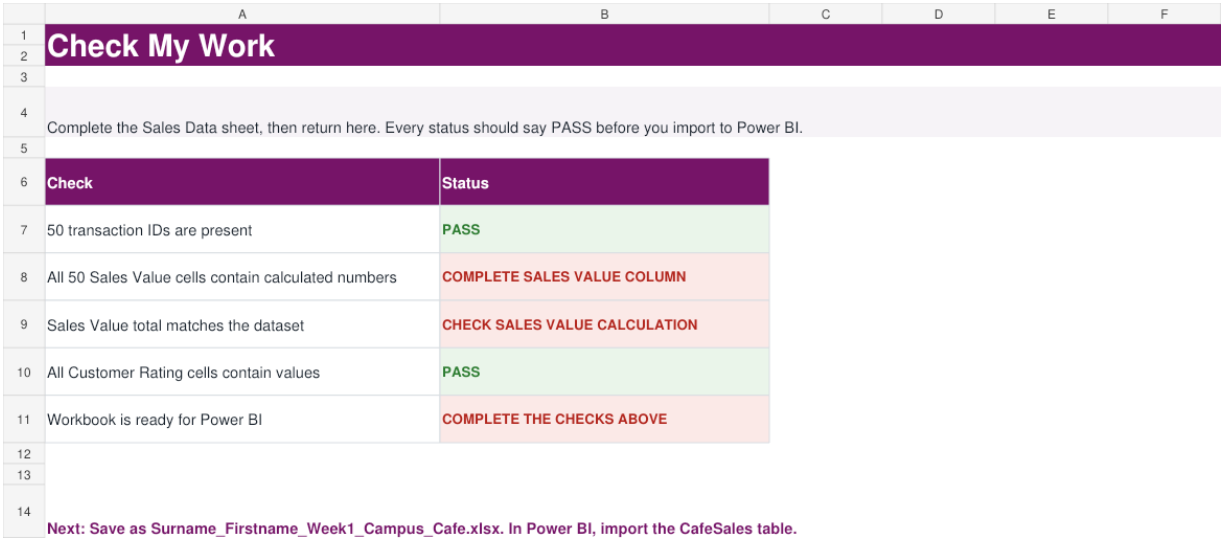
Use =SUM(J2:J51) in an empty cell. Record the result below.

Largest transaction ID and value

Total Sales Value

Excel checkpoint Check My Work

Open the Check My Work sheet before moving to Power BI. It checks your row count, rating values, Sales Value coverage, and total. Do not edit the checker cells.



Check My Work

Complete the Sales Data sheet, then return here. Every status should say PASS before you import to Power BI.

Check	Status
50 transaction IDs are present	PASS
All 50 Sales Value cells contain calculated numbers	COMPLETE SALES VALUE COLUMN
Sales Value total matches the dataset	CHECK SALES VALUE CALCULATION
All Customer Rating cells contain values	PASS
Workbook is ready for Power BI	COMPLETE THE CHECKS ABOVE

Next: Save as Surname_Firstname_Week1_Campus_Cafe.xlsx. In Power BI, import the CafeSales table.

Before the formula is complete, the last two checks show Fix this. When all four show PASS, continue.

- ☐ All four status cells show PASS.
- ☐ The total is £351.60.
- ☐ All filters are cleared and 50 rows are visible.
- ☐ Save a working copy as Surname_Firstname_Week1_Campus_Cafe.xlsx.

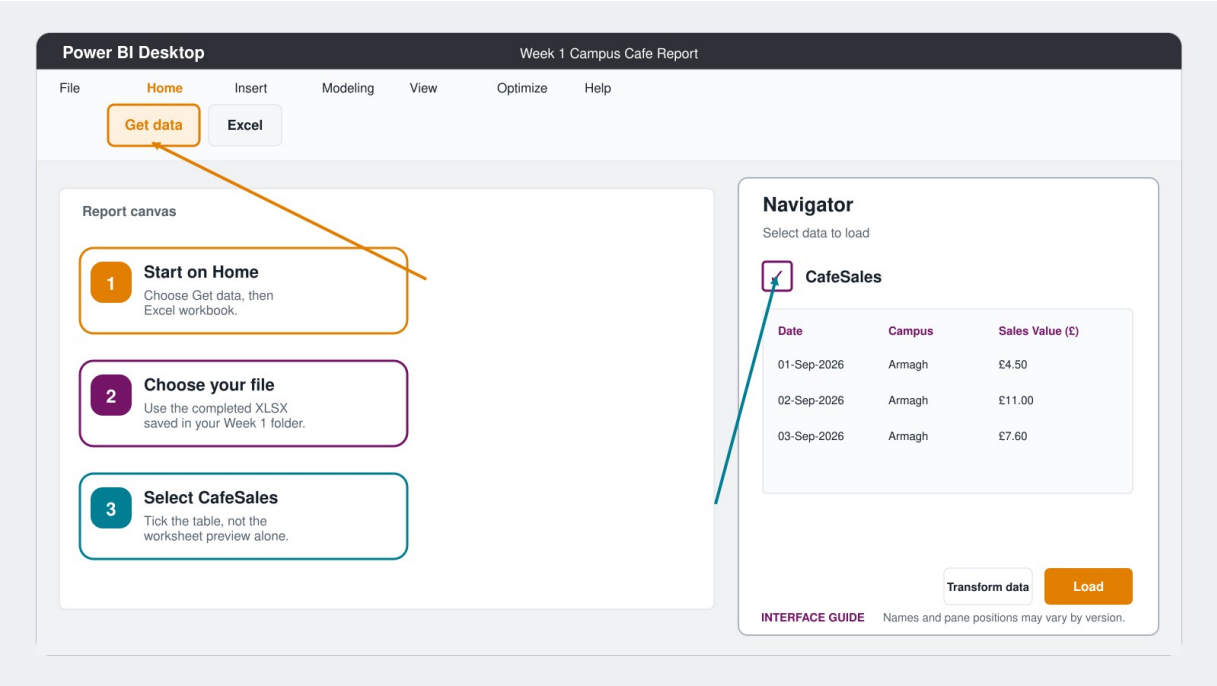
If a check does not pass

Message	Try this
Sales Value formulas	Re-enter =F2*G2 in J2 and fill it to J51.
Sales Value total	Check for blank formula cells and confirm the formula uses Units Sold times Unit Price.
Transaction count	Clear filters. Do not add or delete transaction rows.
Rating range	Undo any changes to Customer Rating; valid values are 1 to 5.

Stop here until every check passes. Power BI should import the completed table, not the unfinished download.

Activity 4 Import the table into Power BI

Open Power BI Desktop and use the completed Excel copy. The interface changes over time, so focus on the command names and field roles rather than an exact pane position.



Import the table named CafeSales, not a loose worksheet range.

1 Connect

Choose Home, Get data, Excel workbook. Select Surname_Firstname_Week1_Campus_Cafe.xlsx.

2 Choose the table

In Navigator, tick CafeSales. Preview the columns and choose Load.

3 Find the work areas

Locate the report canvas, the Visualizations pane, and the Data pane. The Data pane may be called Fields in some versions.

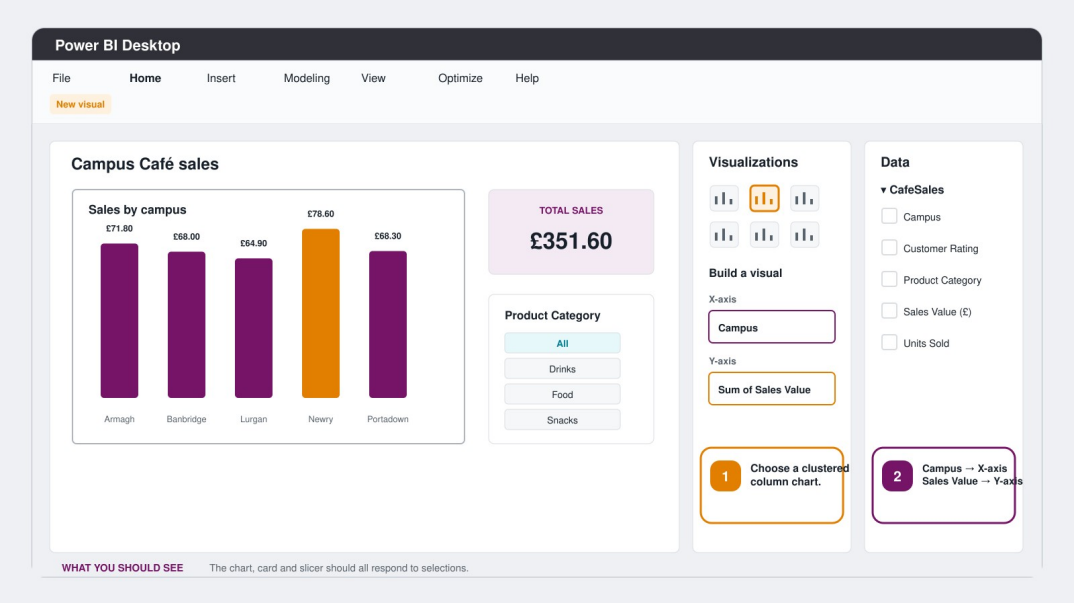
4 Save now

Save the report as Surname_Firstname_Week1_Campus_Cafe.pbix before building visuals.

Import checkpoint

- ☐ CafeSales appears in the Data or Fields pane.
- ☐ Sales Value has a number or currency icon, not a text icon.
- ☐ The Power BI file has been saved in your Week 1 folder.

Activity 5 Build and explain the report



Target report: Campus on the X-axis, Sum of Sales Value on the Y-axis, a total-sales card, and a category slicer.

Build Column chart: Campus on X-axis and Sum of Sales Value on Y-axis. Card: Sum of Sales Value. Slicer: Product Category. Test that the slicer changes the chart and card.

Important check If the card shows 50, Power BI is counting rows. Open the Sales Value field menu and change Count to Sum; the card should show £351.60.

Write your conclusion

Finding What does the report show

Possible action What could the cafe team consider

Limitation What can this small dataset not prove

Extra field What else would improve the staffing decision

Activity 6 Review and email your assignment

Answer the five questions without looking back first. Your score is useful feedback, not a judgement.

1. A card shows 50 instead of £351.60. What should you change?
A Change Sum to Count B Change Count to Sum C Delete the table

2. For Sales by campus, which field belongs on the X-axis?
A Campus B Sales Value C Transaction ID

3. Why should Sales Value use Sum in the card?
A It adds the money values B It counts rows C It sorts the table

4. Which extra data would best support a staffing decision?
A Transaction time and staff hours B Font colour C Report page size

5. The report summarises past sales from 1 to 10 September. What type of analysis is this?
A Descriptive B Predictive C Prescriptive

Record your answers as five letters

Email your weekly assignment

Email the files below to mcclellandp@src.ac.uk. Use the subject: Week 1 - your name - SRC student number.

- ☐ Surname_Firstname_Week1_Campus_Cafe.xlsx with all four Check My Work cells showing PASS.
- ☐ Surname_Firstname_Week1_Campus_Cafe.pbix with the three required visuals.
- ☐ Your completed PDF, if your tutor asks for it, or a screenshot of the conclusion and quiz responses.

Optional stretch

- Add a second chart showing Sales Value by Product and explain what it adds.
- Create a Total Sales measure with SUM(CafeSales[Sales Value (£)]).
- Write one diagnostic question and name the extra data needed to answer it.