FOUNDATION LESSON

WEEK 6 · LESSON 11

Findings, limitations and clean-run verification

A finding links a claim to evidence; a clean run rebuilds that evidence from the declared inputs.

THE MENTAL MODEL

MENTAL MODEL

The mental model

A finding links a claim to evidence; a clean run rebuilds that evidence from the declared inputs.

A SUPPORTED FINDING

CODE WALKTHROUGH W06-L11-S03

```
01  revenue=220;profit=70;fcf=45
02  print(f"2025 Jan–Feb, A: revenue EUR {revenue}; profit EUR {pro
↪   fit}.")
03  print(f"Margin {profit/revenue:.1%}; free cash flow EUR {fcf}."
↪   )
04  print("Synthetic two-month example; no causal or annual claim."
↪   )
```

WHAT TO TRACK

A supported finding

PREDICT THE RESULT

Predict the output.
Explain each operation.
Pause before continuing.

A SUPPORTED FINDING · RESULT

CODE WALKTHROUGH W06-L11-S04

```
01  revenue=220;profit=70;fcf=45
02  print(f"2025 Jan–Feb, A: revenue EUR {revenue}; profit EUR {pro
↪   fit}.")
03  print(f"Margin {profit/revenue:.1%}; free cash flow EUR {fcf}."
↪   )
04  print("Synthetic two-month example; no causal or annual claim."
↪   )
```

WHAT TO TRACK

A supported finding

VALIDATE THE RESULT

```
2025 Jan–Feb, A: revenue EUR
220; profit EUR 70.
Margin 31.8%; free cash flow
EUR 45.
Synthetic two-month example;
no causal or annual claim.
```

RECORD THE ANALYTICAL ENVIRONMENT

CODE WALKTHROUGH W06-L11-S05

```
01  import sys,pandas,numpy,matplotlib
02  print("Python:",sys.version.split()[0])
03  print("pandas:",pandas.__version__)
04  print("NumPy:",numpy.__version__)
05  print("Matplotlib:",matplotlib.__version__)
```

WHAT TO TRACK

Record the analytical environment

PREDICT THE RESULT

Predict the output.
Explain each operation.
Pause before continuing.

RECORD THE ANALYTICAL ENVIRONMENT · RESULT

CODE WALKTHROUGH W06-L11-S06

```
01  import sys,pandas,numpy,matplotlib
02  print("Python:",sys.version.split()[0])
03  print("pandas:",pandas.__version__)
04  print("NumPy:",numpy.__version__)
05  print("Matplotlib:",matplotlib.__version__)
```

WHAT TO TRACK

Record the analytical environment

VALIDATE THE RESULT

```
Python: 3.12.14
pandas: 2.2.3
NumPy: 2.3.5
Matplotlib: 3.10.8
```

HIDDEN NOTEBOOK STATE

CODE WALKTHROUGH W06-L11-S07

```
01  print(previous_result)
```

WHAT TO TRACK

Hidden notebook state

PREDICT THE RESULT

Predict the output.
Explain each operation.
Pause before continuing.

HIDDEN NOTEBOOK STATE · RESULT

CODE WALKTHROUGH W06-L11-S08

```
01  print(previous_result)
```

WHAT TO TRACK

Hidden notebook state

VALIDATE THE RESULT

```
NameError: name
'previous_result' is not
defined
```

GUIDED PRACTICE

LEARNER PRACTICE

Guided practice

Write one finding for revenue 500, profit 75 and a three-month synthetic period. Include the margin and a limitation.

PREDICT · MODIFY · RUN

01 Restate the supplied rules.

02 Predict the result.

03 Modify and run the code.

04 Compare actual output.

05 Explain any difference.

INDEPENDENT PRACTICE

LEARNER PRACTICE

Independent practice

Write a standalone script that defines revenue and cost before calculating profit, then run it in a fresh process.

PREDICT · MODIFY · RUN

01 Restate the supplied rules.

02 Predict the result.

03 Modify and run the code.

04 Compare actual output.

05 Explain any difference.

CHECK YOUR UNDERSTANDING

MENTAL MODEL

Check your understanding

Diagnostic: Does a notebook that works only after executing cells out of order satisfy reproducibility? No. It must run top to bottom from a fresh state.

RECAP AND NEXT STEP

Recap and next step

Tie every finding to verified measures, state limitations, and rerun from a clean environment with declared inputs and versions.

UNDERSTAND APPLY VALIDATE EXPLAIN