FOUNDATION LESSON

WEEK 2 · LESSON 13

Index and pair sequences

enumerate for position and value / zip for parallel sequences

INDEX AND PAIR SEQUENCES

MENTAL MODEL

Index and pair sequences

enumerate gives a position and an item; zip pairs corresponding items from multiple sequences.
zip normally stops at the shortest sequence. Validate equal lengths before processing when truncation would lose data.

ENUMERATE TICKERS

CODE WALKTHROUGH W02-L13-S03

```
01  tickers = ["AAPL", "MSFT", "NVDA"]
02  for position, ticker in enumerate(tickers, start=1):
03      print(position, ticker)
```

WHAT TO TRACK

Enumerate tickers

PREDICT THE RESULT

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

ENUMERATE TICKERS

CODE WALKTHROUGH W02-L13-S04

```
01  tickers = ["AAPL", "MSFT", "NVDA"]
02  for position, ticker in enumerate(tickers, start=1):
03      print(position, ticker)
```

WHAT TO TRACK

Enumerate tickers

VALIDATE THE RESULT

```
1 AAPL
2 MSFT
3 NVDA
```

ZIP TWO SEQUENCES

CODE WALKTHROUGH W02-L13-S05

```
01  dates = ["Jan", "Feb", "Mar"]
02  sales = [100, 120, 90]
03  for date, value in zip(dates, sales):
04      print(date, value)
```

WHAT TO TRACK

Zip two sequences

PREDICT THE RESULT

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

ZIP TWO SEQUENCES

CODE WALKTHROUGH W02-L13-S06

```
01  dates = ["Jan", "Feb", "Mar"]
02  sales = [100, 120, 90]
03  for date, value in zip(dates, sales):
04      print(date, value)
```

WHAT TO TRACK

Zip two sequences

VALIDATE THE RESULT

```
Jan 100
Feb 120
Mar 90
```

LENGTH VALIDATION

CODE WALKTHROUGH W02-L13-S07

```
01  dates = ["Jan", "Feb", "Mar"]
02  sales = [100, 120]
03  if len(dates) != len(sales):
04      print("cannot process: different lengths")
05  else:
06      for date, value in zip(dates, sales):
07          print(date, value)
```

WHAT TO TRACK

Length validation

PREDICT THE RESULT

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

LENGTH VALIDATION

CODE WALKTHROUGH W02-L13-S08

```
01  dates = ["Jan", "Feb", "Mar"]
02  sales = [100, 120]
03  if len(dates) != len(sales):
04      print("cannot process: different lengths")
05  else:
06      for date, value in zip(dates, sales):
07          print(date, value)
```

WHAT TO TRACK

Length validation

VALIDATE THE RESULT

```
cannot process: different
lengths
```

INDEPENDENT PREDICTION

LEARNER PRACTICE

Independent prediction

Change one input in index and pair sequences and test a boundary or edge case.

01 Predict the exact output.
02 Change only one input.
03 Run in a fresh Python process.
04 Explain any difference.

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.

INDEX AND PAIR SEQUENCES

Recap and next step

enumerate gives a position and an item; zip pairs corresponding items from multiple sequences. zip normally stops at the shortest sequence. Validate equal lengths before processing when truncation would lose data.

UNDERSTAND APPLY VALIDATE EXPLAIN