FOUNDATION LESSON

WEEK 2 · LESSON 8

Tuples and dictionaries

Tuples and immutable records / Dictionary fundamentals

TUPLES AND DICTIONARIES

MENTAL MODEL

Tuples and dictionaries

Tuples group positional fields without top-level reassignment. Dictionaries map keys to values for named fields.
A singleton tuple needs a comma. Dictionary get with a default avoids a missing-key error but does not override a present None.

UNPACK A RECORD

CODE WALKTHROUGH W02-L08-S03

```
01  record = ("AAPL", 10, 190.5)
02  ticker, quantity, price = record
03  print(ticker, quantity, price)
```

WHAT TO TRACK

Unpack a record

PREDICT THE RESULT

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

UNPACK A RECORD

CODE WALKTHROUGH W02-L08-S04

```
01  record = ("AAPL", 10, 190.5)
02  ticker, quantity, price = record
03  print(ticker, quantity, price)
```

WHAT TO TRACK

Unpack a record

VALIDATE THE RESULT

```
AAPL 10 190.5
```

NAMED FIELDS

CODE WALKTHROUGH W02-L08-S05

```
01  customer = {"id": 101, "region": "GR", "income": 42000}
02  print(customer["region"])
03  print(customer.get("debt", 0))
```

WHAT TO TRACK

Named fields

PREDICT THE RESULT

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

NAMED FIELDS

CODE WALKTHROUGH W02-L08-S06

```
01  customer = {"id": 101, "region": "GR", "income": 42000}
02  print(customer["region"])
03  print(customer.get("debt", 0))
```

WHAT TO TRACK

Named fields

VALIDATE THE RESULT

GR
0

SINGLETON TUPLE

CODE WALKTHROUGH W02-L08-S07

```
01  one = (100,)
02  print(type(one))
03  print(len(one))
```

WHAT TO TRACK

Singleton tuple

PREDICT THE RESULT

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

SINGLETON TUPLE

CODE WALKTHROUGH W02-L08-S08

```
01  one = (100,)
02  print(type(one))
03  print(len(one))
```

WHAT TO TRACK

Singleton tuple

VALIDATE THE RESULT

```
<class 'tuple'>
1
```

INDEPENDENT PREDICTION

LEARNER PRACTICE

Independent prediction

Change one input in tuples and dictionaries 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.

TUPLES AND DICTIONARIES

Recap and next step

Tuples group positional fields without top-level reassignment. Dictionaries map keys to values for named fields. A singleton tuple needs a comma. Dictionary get with a default avoids a missing-key error but does not override a present None.

UNDERSTAND APPLY VALIDATE EXPLAIN