Day 14

Tuples in Python:

What is a Tuple?

A tuple is a collection of multiple values stored in one variable, just like a list, but it cannot be changed.

Tuple = immutable list

Why do we need Tuples?

- To store fixed data (data that should not change)
- Faster than lists
- Safer (no accidental changes)
- Used when data should remain constant

Creating a Tuple

t1 = (1, 2, 3)
t2 = ("Python", "Java", "C")
t3 = (1, "Hello", 3.5, True)

Important: Single-Element Tuple

Not a tuple: t = (5)

Correct tuple: t = (5,)

Comma , makes it a tuple.

Example: a basic example of tuple.

```
1   l = (3,4,5)
2   print(l)
3   print(type(l))

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PS E:\Python\Day11-20\Day14> python main.py
(3, 4, 5)
<class 'tuple'>
```
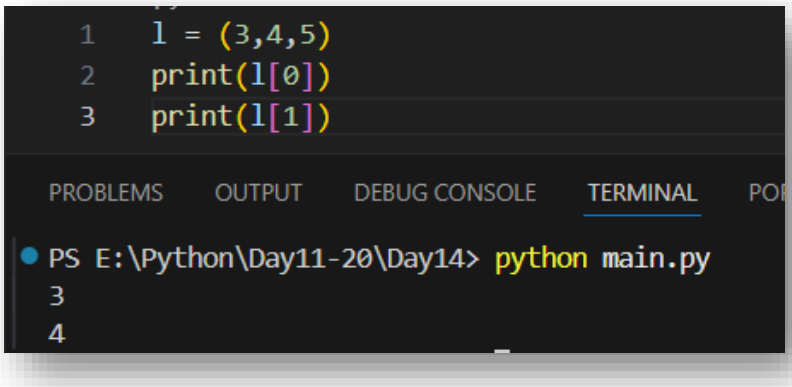
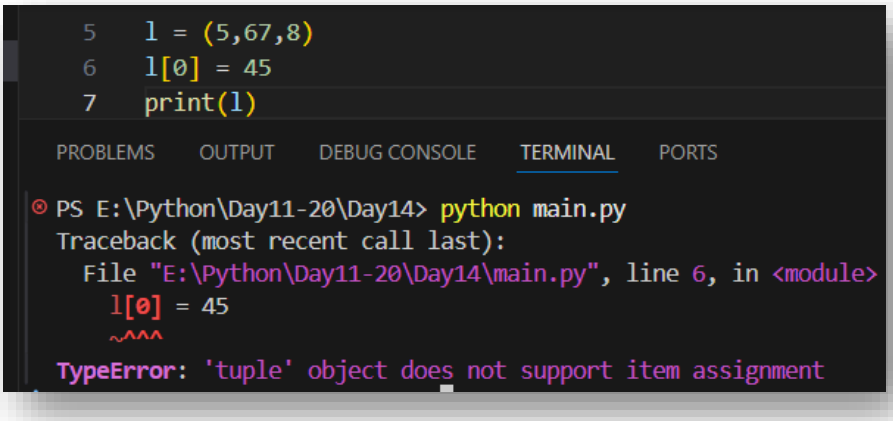
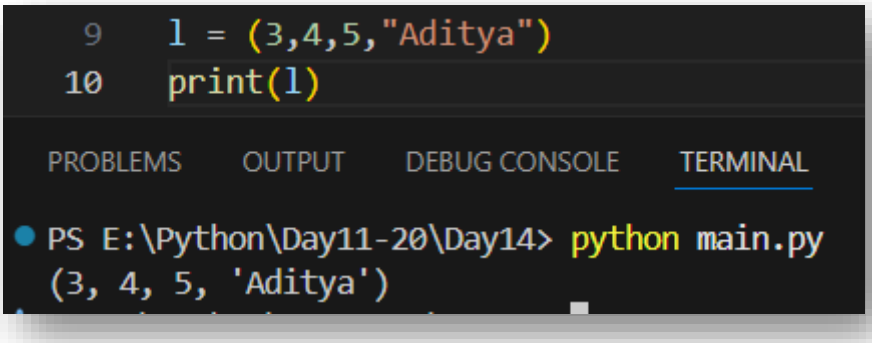

Example: accessing element by index.



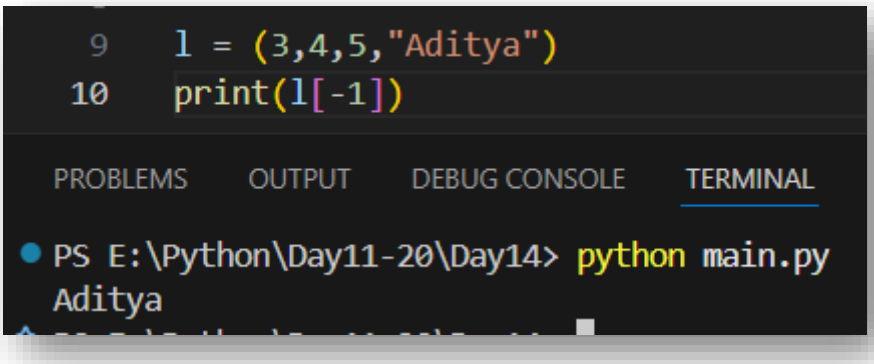
Example: tuples are immutable



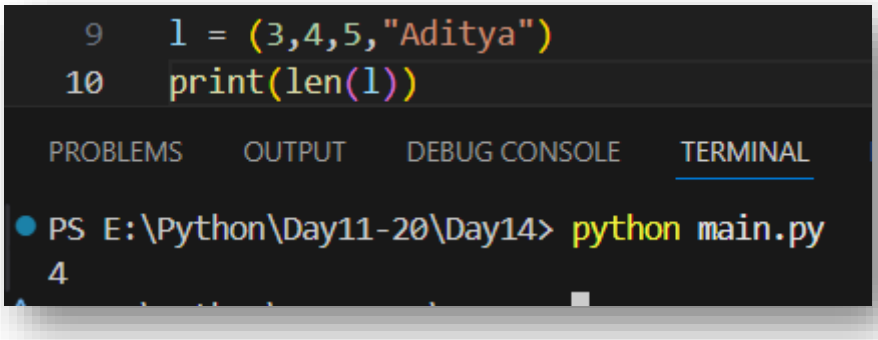
Example: tuples can have multiple data types.



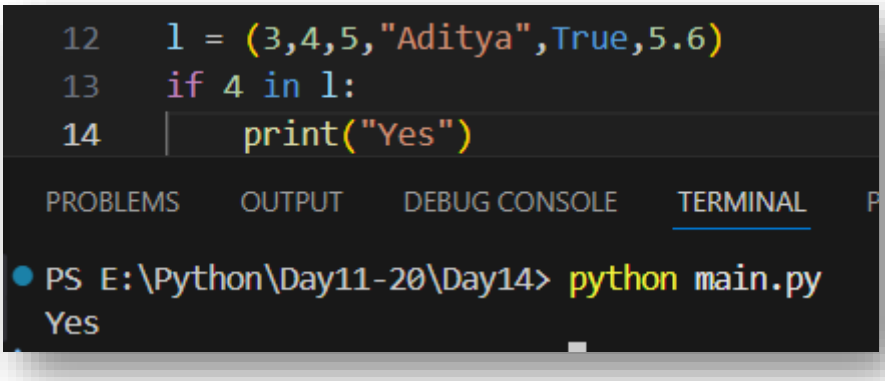
Example: negative indexing in the tuple



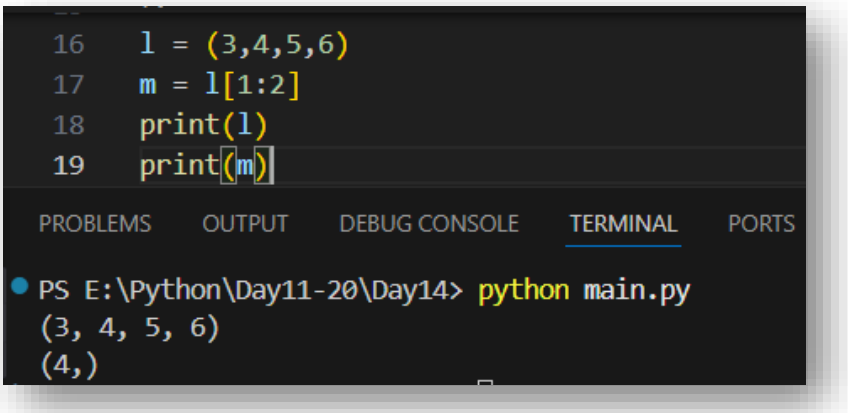
Example: to get the length of the tuple.



Example: looking for something in the tuple



Example: we get new tuple when we do slicing.



Tuple vs List (Quick)

Tuple	**List**
Immutable	Mutable
Uses ()	Uses []
Faster	Slower
Safe	Flexible

Summary:

- Tuple stores multiple values
- Tuples are immutable
- Created using ()
- Supports indexing & slicing
- Faster and safer than lists

--The End--