

Chapter 1: Python Fundamental

Lesson 3: Simultaneous Assignment

What is Simultaneous Assignment?

Simultaneous assignment in Python allows you to assign multiple variables at the same time in a single line of code. This makes your code shorter and easier to read.

Syntax

The general syntax for simultaneous assignment is:

```
var1, var2, ..., varN = value1, value2, ..., valueN
```

Each variable on the left-hand side is assigned the corresponding value on the right-hand side.

Example 1: Assigning Values

```
a, b, c = 10, 20, 30
print(a) # Output: 10
print(b) # Output: 20
print(c) # Output: 30
```

Here, **a** gets **10**, **b** gets **20**, and **c** gets **30**.

Example 2: Swapping Variables

You can swap the values of two variables without using a temporary variable.

```
x, y = 5, 10
x, y = y, x
print(x, y) # Output: 10 5
```

Common Mistakes to Avoid

1. **Mismatch in Number of Variables and Values:** If the number of variables doesn't match the number of values, Python will raise an error.
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```
a, b = 1, 2, 3 # Raises ValueError: too many values to unpack
```

2. **Unpacking Non-Iterable Objects:** You can't unpack something that isn't iterable (like an integer).

```
a, b = 10 # Raises TypeError: 'int' object is not iterable
```

Practice Exercises

1. Assign the values 10, 20, and 30 to the variables a, b, and c respectively in a single line.
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