

Title: Understanding Lambda Functions in Python

Subtitle: A Quick Overview

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What is a Lambda Function?

- Definition:
 - A small, anonymous function defined using the lambda keyword.
- Characteristics:
 - No name unless assigned to a variable.
 - Can take multiple arguments but only one expression.

Syntax of Lambda Functions

- General Syntax:

lambda arguments: expression

Example of a Lambda Function

- Code Example:
 - `add = lambda x, y: x + y`
 - `result = add(3, 5)` # result will be 8
- Explanation:
 - A simple function to add two numbers.

Usage in Functional Programming

- Common Uses:
 - `filter()`
 - `map()`
 - `reduce()`

Using Lambda with Filter

- Example:
 - `numbers = [1, 2, 3, 4, 5]`
 - `even = list(filter(lambda x: x % 2 == 0, numbers))` #
Output: `[2, 4]`
 - Explanation:
 - Filters even numbers from a list.

Using Lambda with Map

- Example:
 - `squared = list(map(lambda x: x**2, numbers))` #
Output: [1, 4, 9, 16, 25]
 - Explanation:
 - Squares each number in the list.

Using Lambda with Reduce

- Example:
 - from functools import reduce
 - `sum_all = reduce(lambda x, y: x + y, numbers) #`
Output: 15
- Explanation:
 - Accumulates values in the list.

Summary

- Key Takeaways:
 - lambda functions are concise, anonymous functions.
 - Useful for short, temporary functions.
 - Commonly used in functional programming contexts.

Questions?

Thank You!

Open the floor for questions.