## Lambda functions

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What is a lambda function?

A lambda function is a small, anonymous function that can be defined inline within a shorthand way to create a function without declaring a separate named function.

**Syntax** 

The syntax for a lambda function is:

1lambda arguments: expression

Where:

- arguments is a comma-separated list of variables that will be passed to the function.
- expression is the code that will be executed when the function is called.

Example

Let's say we want to create a function that takes a single argument x and returns its with a lambda function:

```
1square = lambda x: x ** 2
```

Here, x is the argument, and x \*\* 2 is the expression that will be executed when the function

Now that we have our lambda function, we can use it like any other function:

1result = square(4)

2print(result) # Output: 16

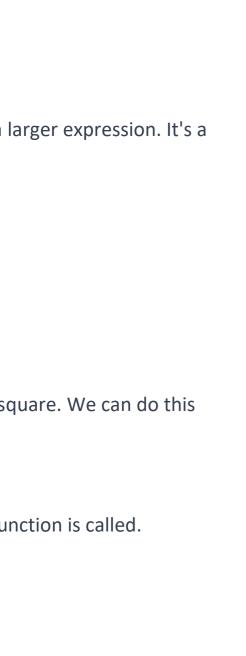
In this example, we pass the value 4 to the square lambda function, and it returns the is 16.

Benefits of lambda functions

Lambda functions are useful when:

- You need a small, one-time-use function.
- You want to pass a function as an argument to another function.
- You want to create a function on the fly without declaring a separate named functio
  Common use cases

Lambda functions are often used in:



result of 4 \*\* 2, which

- Data processing and filtering (e.g., with filter(), map(), and reduce() functions).
- Event handling and callbacks.
- Creating small, one-time-use functions for specific tasks.