

Question: what are Lambda functions?

Lambda functions, also known as anonymous functions or lambda expressions, are small, unnamed functions in Python that can have any number of arguments but only one expression. They are defined using the keyword `lambda` followed by a list of parameters, a colon (:), and an expression. Lambda functions are particularly useful for creating short, one-line functions without the need for explicitly defining a function using the `def` keyword.

Here's the general syntax of a lambda function:

python

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```
lambda arguments: expression
```

For example, you can define a lambda function to calculate the square of a number like this:

python

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

Then, you can use this lambda function to compute the square of a number by calling `square(5)`, which would return 25.

Lambda functions are often used in conjunction with higher-order functions like `map()`, `filter()`, and `sorted()`, where you need to pass a function as an argument. They allow you to create simple, throwaway functions on the fly without the need for a formal function definition.