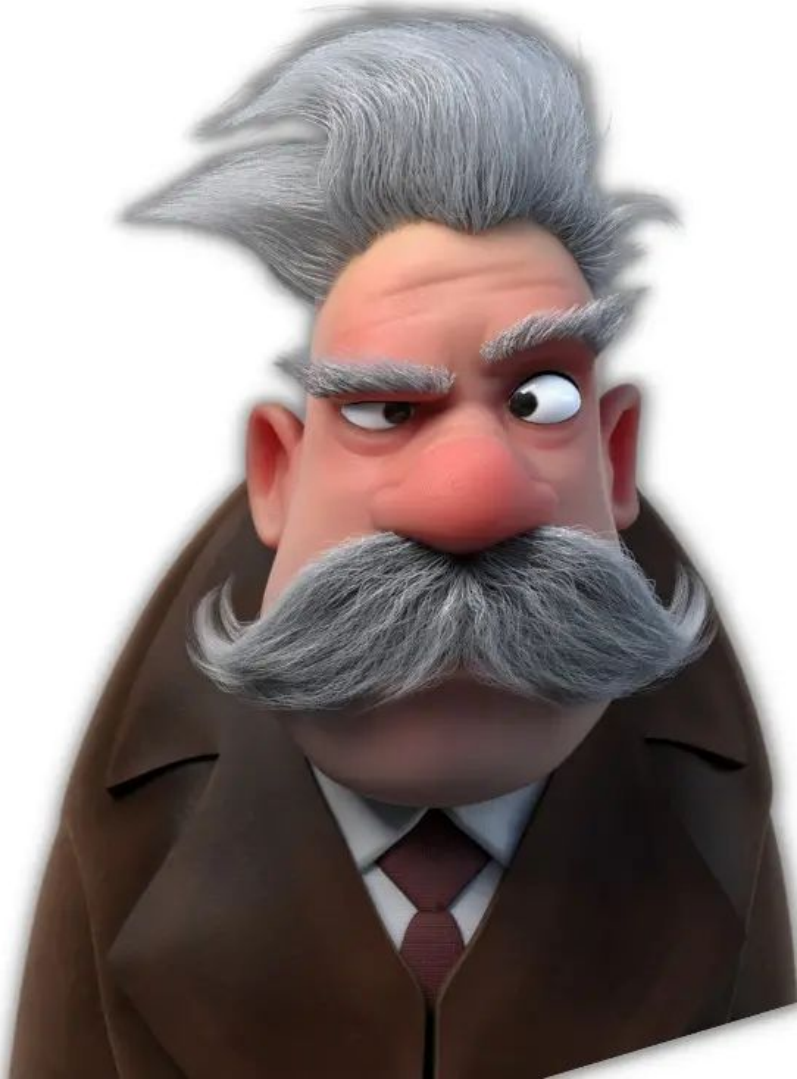
Lambda Function

In Python



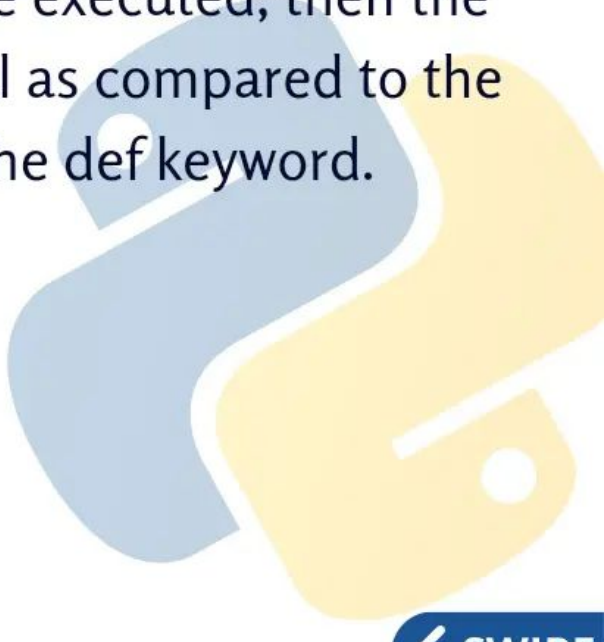
Introduction:

A Lambda Function in Python programming is an anonymous function or a function having no name.

It is a small and restricted function having no more than one line.

Just like a normal function, a Lambda function can have multiple arguments with one expression.

If you have a single expression to be executed, then the lambda function is extremely useful as compared to the traditional function defined using the def keyword.



SWIPE

Syntax:

Here's the syntax of Lambda Function in python.

```
lambda argument(s) : expression
```

There can be a number of arguments but only one expression.

The lambda function comes in very handy when working with the map, filter, and reduce functions in Python.

Examples:

```python
# regular function
def multiply_by_2(x):
    return x*2

# lambda function
result = lambda x: x*2

print(multiply_by_2(5))
print(result(5))
```

Comparison between lambda function and regular function syntax.

Python program to find a+b whole square using lambda.

```python
square = lambda a, b : a**2 + b**2 + 2*(a+b)
print(square(2,5))
# Output 43
```

SWIPE

#4

Using lambda with filter, map and reduce fucntions:

```python
input_list = [2, 3, 4, 5, 6, 7]

# using map function to square each list item
map_answer = map(lambda x : x*x, input_list)
print(list(map_answer))
# Output : [4, 9, 16, 25, 36, 49]


# using filter function to filter list item with value less than 5
filter_answer = filter(lambda x : x<5, input_list)
print(list(filter_answer))
# Output : [2, 3, 4]

from functools import reduce

# using reduce function to sum all the list items.
reduce_answer = reduce(lambda x,y : x+y, input_list)
print(reduce_answer)
# Output : 27
```

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