



#### **Lambda Functions**



#### Lambda functions

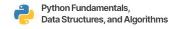


Name comes from lambda calculus

Similar to arrow functions in JavaScript

Also known as anonymous functions, technically do not have a name

Often used in special situations where a function does not need a name, nor to be held in memory for later use



## Lambda function syntax



lambda arg1, arg2: expression to return

Argument list is comma-separated, not surrounded by parentheses

Multiple arguments allowed

Only one expression/line allowed in function body

Major difference from JavaScript arrow functions which allow multiline function bodies



## Lambda function example



lambda num: num \*\* 2

def square(num):
 return num \*\* 2



# Python Fundamentals, Data Structures, and Algorithms High-order functions & callback functions



Functions can be used as arguments for other functions

Higher-order functions are functions that use other functions as arguments

Callback functions are functions used by higher order functions as arguments

Lambda functions are typically used as callback functions



### Lambda function callback example



```
# This higher-order function has a parameter of a callback function
def a_function(callback):
    print(callback(3))

# This calls the higher-order function with a lambda function argument
a_function(lambda num : num ** 2) # this would print 9
```