Lambdas \$ HOF

Lambda: a way to write a python function in one line formal: lambda param: RV

ex. 777 det square (x):

return x** 2 = 777 square = lambda x : x * * 2

777 square (2) 777 square (2)
4

Can take multiple arguments

ex. >>> def maltiply (x, y, z): ->>>> multiply = lambda x, y, z: x*y*z
>>>> multiply (1, 2, 3)

6

(an also have no arguments

ex. >>> 7 tru = lambda: True

return True

>>> tru()

True

D Write a lambda function for the function

below:

>>> 3/2

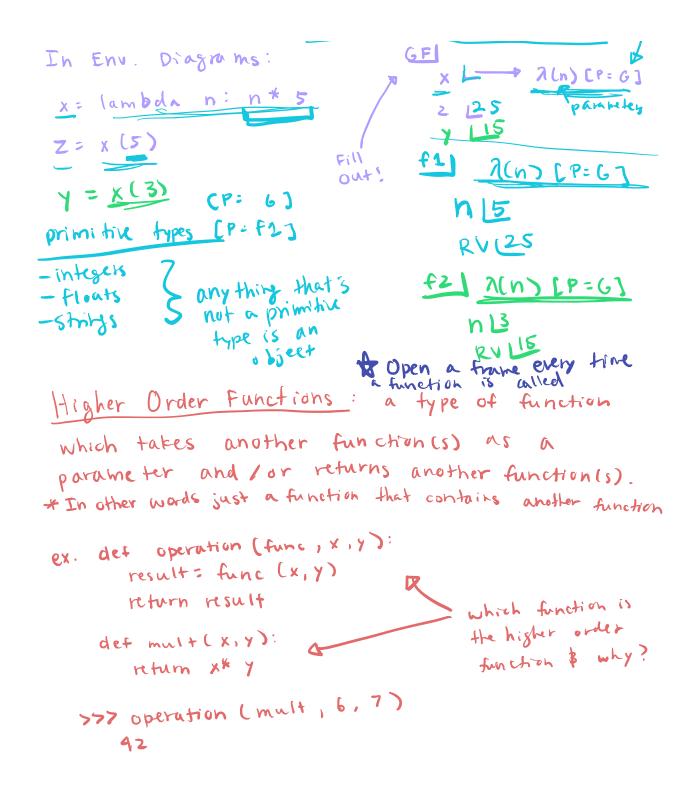
>>> 6/2

3.0

def division (x 1y):

return x/y

division = lambda x, y: x/y



Lambdas come in handy with higher-order functions

ex. def print-word (string);

return lambda: print (string)

lambda x: print (x)

return p

>>>hi = print - word ("hi") I hi is the lambda

>>> hi () I function call to hi

(2) Write a higher-order function which takes in an operation function (any function that takes in two numbers as parameters and returns a number) and returns an operation function which divides the result of the input operation function by 2.

def divide - by - two (operation):

The furn x*y

The furn x*y

The divide - by - two (mult) (213)

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The furn lambda x, y: operation (x, y)

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Env Diagram to above Problem GPI mult L fune d-6-t (operation) FI d-b-t (operation) (P=6) operation L RVL > fune \(\lambda(x,y) \) (P=f2) \$\frac{1}{2} \lambda(x,y) \) (P=f2) \$\frac{1}{2} \lambda(x,y) \) (P=f2) **Env Diagram to above Problem GPI mult (x,y) (P=6)

RVL6