Comprehension

Q1:

Create a matrix which looks like below:

matrix = [[0, 1, 2, 3, 4],

[0, 1, 2, 3, 4],

[0, 1, 2, 3, 4],

[0, 1, 2, 3, 4],

[0, 1, 2, 3, 4]]

Q2:

Suppose I want to flatten a given 2-D list:

matrix = [[1, 2, 3], [4, 5, 6], [7, 8, 9]]

Expected Output: flatten\_matrix = [1, 2, 3, 4, 5, 6, 7, 8, 9]

Q3:

Suppose I want to flatten a given 2-D list and only include those strings whose lengths are less than 6:

planets = [[‘Mercury’, ‘Venus’, ‘Earth’], [‘Mars’, ‘Jupiter’, ‘Saturn’], [‘Uranus’, ‘Neptune’, ‘Pluto’]]

Expected Output: flatten\_planets = [‘Venus’, ‘Earth’, ‘Mars’, ‘Pluto’]

Q4:

Flipping the keys and values in the original dictionary.

original={**'Name'**:**'iphone5'**,**'Brand'**:**'Apple'**,**'Color'**:**'silver'**}

Generator

Q1

Write a generator function which returns the Fibonacci series. They are calculated using the following formula: The first two numbers of the series is always equal to 1, and each consecutive number returned is the sum of the last two numbers. Hint: Can you use only two variables in the generator function? Remember that assignments can be done simultaneously. The code

a = 1

b = 2

a, b = b, a

print(a,b)

Q2

Fill in this function

def fib():

pass #this is a null statement which does nothing when executed, useful as a placeholder.

# testing code

import types

if type(fib()) == types.GeneratorType:

print("Good, The fib function is a generator.")

counter = 0

for n in fib():

print(n)

counter += 1

if counter == 10:

break