Exam 1 - Study Guide

1. Fill in the blanks with what Python would display.

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| **def** print\_moar(stuff):  i = 0  while stuff and i < 2:  stuff = print(stuff, print('colin'))  i += 1  **return** stuff  >>> chris = print\_moar('josh')  >>> chris |

2. Consider the following function definition:

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| **def** square(x):  return x \* x  **def** argentina(n):  print(n)  if n > 0:  **return** lambda k: k(n+1)  else:  **return** 1 / n |

After executing the above code, what will Python display when evaluating each of the following expressions?

>>> print(1, print(2))

>>> argentina(0)

>>> argentina(1)(square)

3. Draw the environment diagram that results from running the following code.

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| **def** yak(zebra):  **return** 20 // zebra  **def** llama(alpaca):  zebra = 0  **def** yak(zebra):  **return** alpaca(zebra)  **return** yak  llama(yak)(4) |

4. Write a function, make\_digit\_remover, which takes in an integer from 0-9, i. It returns another function which takes in an integer, and removes all digits from right to left up to and including the first occurrence of i. If i does not occur in the integer, this function returns the original number.

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| def make\_digit\_remover(i):  """  >>> remove\_two = make\_digit\_remover(2)  >>> remove\_two(232018)  23  >>> remove\_two(23)  0  >>> remove\_two(99)  99  """  def remove( ): |



Midterm 2 Practice

Question 1: WWPD?

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| >>> L = [1, 2, 3, 4]  >>> L[0]  1  >>> L[100]  Error  >>> L[-1]  4  >>> L[2] = 100  >>> L  [1,2,100,4] |

Question 2: Implement a function map\_mut that takes a list as an argument and maps a function f onto each element of the list. You should mutate the original lists, without creating any new lists. Do NOT return anything.

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| **def** **map\_mut**(f, L):  """Mutatively maps f onto each element in L.  >>> L = [1, 2, 3, 4]  >>> map\_mut(lambda x: x\*\*2, L)  >>> L  [1, 4, 9, 16]  """  "\*\*\* YOUR CODE HERE \*\*\*" |

Solutions

**Question 2:**

**def** **map\_mut**(f, L):

**for** i **in** range(len(L)):

L[i] = f(L[i])