Lesson 17:

1. Quiz: Word Count

def count\_words(input\_string):

words\_in\_string = 0

for item in input\_string.split():

words\_in\_string += 1

return words\_in\_string

1. Quiz: Latency

def speed\_fraction(time\_in\_ms, distance\_data):

full\_distance\_traceroute = distance\_data \* 2

data\_km\_s = 1000.0 / time\_in\_ms \* full\_distance\_traceroute # 1000.0 ms per s

speed\_of\_data = data\_km\_s / speed\_of\_light

return speed\_of\_data

1. Quiz: Converting Seconds

def convert\_seconds(input\_seconds):

return\_string = ''

hours = int(input\_seconds / 3600)

hours\_text = ' hours, ' if hours != 1 else ' hour, '

return\_string += str(hours) + hours\_text

seconds\_after\_hours = input\_seconds % 3600

minutes = int(seconds\_after\_hours / 60)

minutes\_text = ' minutes, ' if minutes != 1 else ' minute, '

return\_string += str(minutes) + minutes\_text

seconds = seconds\_after\_hours % 60

seconds\_text = ' seconds' if seconds != 1 else ' second'

return\_string += str(seconds) + seconds\_text

return return\_string

1. Quiz: Download Calculator

bits\_dictionary = dict()

bits\_dictionary['kb'] = 2.0 \*\* 10

bits\_dictionary['kB'] = 2.0 \*\* 10 \* 8

bits\_dictionary['Mb'] = 2.0 \*\* 20

bits\_dictionary['MB'] = 2.0 \*\* 20 \* 8

bits\_dictionary['Gb'] = 2.0 \*\* 30

bits\_dictionary['GB'] = 2.0 \*\* 30 \* 8

bits\_dictionary['Tb'] = 2.0 \*\* 40

bits\_dictionary['TB'] = 2.0 \*\* 40 \* 8

def download\_time(file\_size, file\_size\_units, bandwidth, bandwidth\_unit\_size):

file\_size\_bits = file\_size \* bits\_dictionary[file\_size\_units]

bandwidth\_bits = bandwidth \* bits\_dictionary[bandwidth\_unit\_size]

transfer\_in\_seconds = file\_size\_bits / bandwidth\_bits

return convert\_seconds(transfer\_in\_seconds)