#sourced from provided help videos

#Part 1

#part a

#Creates the function num that stores the algorithm

def num():

#Loops 10 times

for i in range(10):

#Prints integer starting at 0, adds space between and at end

print(i,'',end='')

#Loops 10 times

for i in range(10):

#Calls the num function declared above

num()

#Prints the next line

print()

#part b

#had lots of tutoring help from reddit.com/r/learnpython webchat. They were

#very helpful and this particular part took well over an hour. They

#never just gave me the answer. Just hints to force me to figure it out!

#Creates the variable a with all the numbers as strings

a= ['0','1','2','3','4','5','6','7','8','9']

#Creates the function num that stores the algorithm

def num():

#Loops 10 times

for i in range(10):

#Prints the first string associated with the called number 10 times

print (' '.join(a[i]\*10))

#Calls the num function created earlier

num()

#part c

#more help from the reddit chat room and watching videos on blackboard

#Creates the function num with the local variable n

def num(n):

for i in range(n):

temp = ''

for j in range(i+1):

temp = temp + ' ' + str(j)

print(temp)

num(10)

#Extra Credit

#Tutoring from stepdad(prof at asu)

# n is a parameter of this function, it is a local variable

#of the function num, it gets its initial value from when we call num()

def num(n):

outnum = n

column = 2

for i in range(1,10):

temp = ''

for j in range(1,column):

temp = temp + ' ' + str(outnum)

outnum = outnum + 1

print(temp)

column = column + 1

num(10)

#Part 2