# Assignment 22

#### 1. Create a function that takes three parameters where:

***Answer****:*

x is the start of the range (inclusive).  
y is the end of the range (inclusive).  
n is the divisor to be checked against.

Return an ordered list with numbers in the range that are divisible by the third parameter n. Return an empty list if there are no numbers that are divisible by n. Examples:  
list\_operation(1, 10, 3) ➞ [3, 6, 9]  
list\_operation(7, 9, 2) ➞ [8]  
list\_operation(15, 20, 7) ➞ []

def list\_operation(start,end,divisor):  
 out\_list = []  
 for ele in range(start,end+1):  
 if ele%divisor == 0:  
 out\_list.append(ele)  
 print(f'Output: ➞ {out\_list}')  
  
list\_operation(1, 10, 3)  
list\_operation(7, 9, 2)  
list\_operation(15, 20, 7)

Output: ➞ [3, 6, 9]  
Output: ➞ [8]  
Output: ➞ []

#### 2.Create a function that takes in two lists and returns True if the second list follows the first list by one element, and False otherwise. In other words, determine if the second list is the first list shifted to the right by 1.

***Answer****:*

Examples:

simon\_says([1, 2], [5, 1]) ➞ True  
simon\_says([1, 2], [5, 5]) ➞ False  
simon\_says([1, 2, 3, 4, 5], [0, 1, 2, 3, 4]) ➞ True  
simon\_says([1, 2, 3, 4, 5], [5, 5, 1, 2, 3]) ➞ False

Notes:  
1. Both input lists will be of the same length, and will have a minimum length of 2.  
2. The values of the 0-indexed element in the second list and the n-1th indexed element in the first list do not matter.

def simon\_says(in\_list\_1,in\_list\_2):  
 if len(in\_list\_1) == len(in\_list\_1) and len(in\_list\_1) >=2 and len(in\_list\_1) >=2:  
 if(in\_list\_1[:-1] == in\_list\_2[1:]):  
 print(f'{in\_list\_1,in\_list\_2} ➞ {True}')  
 else:  
 print(f'{in\_list\_1,in\_list\_2} ➞ {False}')  
   
simon\_says([1, 2], [5, 1])  
simon\_says([1, 2], [5, 5])  
simon\_says([1, 2, 3, 4, 5], [0, 1, 2, 3, 4])  
simon\_says([1, 2, 3, 4, 5], [5, 5, 1, 2, 3])

([1, 2], [5, 1]) ➞ True  
([1, 2], [5, 5]) ➞ False  
([1, 2, 3, 4, 5], [0, 1, 2, 3, 4]) ➞ True  
([1, 2, 3, 4, 5], [5, 5, 1, 2, 3]) ➞ False

#### 3.A group of friends have decided to start a secret society. The name will be the first letter of each of their names, sorted in a alphabetical order ? Create a function that takes in a list of names and returns the name of the secret society ?

***Answer****:*

Examples:

society\_name(["Adam", "Sarah", "Malcolm"]) ➞ "AMS"  
society\_name(["Harry", "Newt", "Luna", "Cho"]) ➞ "CHLN"  
society\_name(["Phoebe", "Chandler", "Rachel", "Ross", "Monica", "Joey"])

def society\_name(in\_list):  
 out\_string = []  
 for ele in in\_list:  
 out\_string.append(ele[0])  
 output = ''.join(sorted(out\_string))  
 print(f'{in\_list} ➞ {output}')  
  
society\_name(["Adam", "Sarah", "Malcolm"])  
society\_name(["Harry", "Newt", "Luna", "Cho"])  
society\_name(["Phoebe", "Chandler", "Rachel", "Ross", "Monica", "Joey"])

['Adam', 'Sarah', 'Malcolm'] ➞ AMS  
['Harry', 'Newt', 'Luna', 'Cho'] ➞ CHLN  
['Phoebe', 'Chandler', 'Rachel', 'Ross', 'Monica', 'Joey'] ➞ CJMPRR

#### 4.An isogram is a word that has no duplicate letters. Create a function that takes a string and returns either True or False depending on whether or not it's an "isogram".

**Answer:***:*

Examples:

is\_isogram("Algorism") ➞ True  
is\_isogram("PasSword") ➞ False  
# Not case sensitive.  
is\_isogram("Consecutive") ➞ False

Notes:  
Ignore letter case (should not be case sensitive).  
All test cases contain valid one word strings.

def is\_isogram(in\_string):  
 lower\_in\_string = in\_string.lower()  
 if len(lower\_in\_string) == len(set(lower\_in\_string)):  
 print(f'{in\_string} ➞ {True}')  
 else:  
 print(f'{in\_string} ➞ {False}')  
   
is\_isogram("Algorism")  
is\_isogram("PasSword")  
is\_isogram("Consecutive")

Algorism ➞ True  
PasSword ➞ False  
Consecutive ➞ False

#### 5.Create a function that takes a string and returns True or False, depending on whether the characters are in order or not ?

**Answer:**

Examples:

is\_in\_order("abc") ➞ True  
is\_in\_order("edabit") ➞ False  
is\_in\_order("123") ➞ True  
is\_in\_order("xyzz") ➞ True

Notes:  
You don't have to handle empty strings.

def is\_in\_order(in\_string):  
 in\_string\_sorted = ''.join(sorted(in\_string))  
 if in\_string == in\_string\_sorted:  
 print(f'{in\_string} ➞ {True}')  
 else:  
 print(f'{in\_string} ➞ {False}')  
  
is\_in\_order("abc")  
is\_in\_order("edabit")  
is\_in\_order("123")  
is\_in\_order("xyzz")

abc ➞ True  
edabit ➞ False  
123 ➞ True  
xyzz ➞ True