#\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* CS421: Assignment 6 \*\*\*\*\*\*\*\*\*\*\*\*\*\*

#

# There are four sections in this assignment. Each section is worth 5 points.

# Sections 1 (5.1) and 2 (5.2) count towards Assignment 5.

# Sections 3 (6.1) and 4 (6.2) count towards Assignment 6.

# Skeleton code is already given.

# You only need to add your code between BEGIN and END lines in each section.

#

# Do NOT hardcode the output; You need to write python code so that it works whether

# you have 10 students in the list OR 1000 students in the list.

#

# Use pythontutor.com to implement each section.

# Save the complete implementation to a file called "a5\_lists.py" and submit the file to Google Classroom

#

# How to save the code from PythonTutor to a file?

# Select the entire code (Ctrl + A)

# Copy the entire code (Ctrl + C)

# Open notepad or any other editor you use to write text files.

# Paste the entire code (Ctrl + V)

# Save the code to a file (Ctrl +S)

# \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

#----------------------------------------------------------------------------

#A.6.1 --> Assume that html class is overcrowded with too many registrations.

# Since that class is too big, SILC decided to split the HTML class

# into two sections html\_a and html\_b

# All the students whose name starts with (a, b....,l, m) will be in html\_1

# And all the students whose name starts with (n,o,...., y,z) will be in html\_2

#

# You are given a big list called "html"

# Write python code to create two new lists "html\_a" and "html\_b" per the above logic.

# Finally, print all three lists in alphabetical order

#----------------------------------------------------------------------------

#=========================================

# BEGIN -- your code

html = [ "guy",

"madeline",

"parker",

"chris",

"tom",

"ursula",

"ramesh",

"lisa",

"staci",

"jordan",

"emmett",

"vinny",

"brian",

"zora",

"oliver",

"polly",

"kingston",

"olivia",

"xavier",

"fiona",

"zack",

"harmony",

"barb",

"samson",

"ariel",

"emma",

"yasmine",

"crystal",

"dan",

"xenia",

"irving",

"tiffany",

"noah",

"umesh",

"yates",

"victoria",

"desiree",

"quinn",

"wendy",

"frank",

"henry",

"mike",

"isabella",

"nora",

"julie",

"lincoln",

"alex",

"kim",

"raven",

"watson",

"ganga"

]

html\_a = []

html\_b = []

# starting the for loop on the list.

# for each element X in the list

for x in html:

# if the name is less than n, then add element x to html\_a list

if (x[0:1]<"n"):

html\_a.append(x)

# else add the element x to html\_b list

else:

html\_b.append(x)

# after the for loop is done, we now have two lists html\_a and html\_b

# since the output should be in the sorted fashion...

# sort the original list html

html.sort()

# sort the new list html\_a

html\_a.sort()

# sort the new list html\_b

html\_b.sort()

# printing all three alphabetically sorted lists

print("html list after sorting--> ", html)

print("html\_a list after sorting --> ", html\_a)

print("html\_b list after sorting --> ", html\_b)

# END -- your code

#=========================================

#----------------------------------------------------------------------------

# A.6.2 --> Assume that python class has 10 students.

# Instructor is keeping track of their attendance every saturday.

# by keeping the list of students present in another list.

# So, You are given an original list of 10 students.

# And for each Saturday, another smaller list is given to you.

# You will write a program to provide attendance chart as follows

#

# s1 A P P P

# s2 P P P A

# ....................

# s10 A A A A

#----------------------------------------------------------------------------

# define students list

python = ["abe", "barb", "chris", "dan", "ellie", "gabby", "henry", "isabelle", "jack", "larry"]

# define the attendance list

week\_1 = ["barb", "chris", "dan", "ellie", "henry", "isabelle", "jack"]

week\_2 = ["abe", "barb", "chris", "ellie", "gabby", "henry", "isabelle", "larry"]

week\_3 = ["abe", "barb", "henry", "isabelle", "jack", "larry"]

week\_4 = ["abe", "barb", "chris", "dan", "ellie", "gabby", "henry", "isabelle", "jack"]

# define the list to hold the attendance

attendance\_report = [ ]

#=========================================

# BEGIN -- your code

# define students list

python = ["abe", "barb", "chris", "dan", "ellie", "gabby", "henry", "isabelle", "jack", "larry"]

# define the attendance list

week\_1 = ["barb", "chris", "dan", "ellie", "henry", "isabelle", "jack"]

week\_2 = ["abe", "barb", "chris", "ellie", "gabby", "henry", "isabelle", "larry"]

week\_3 = ["abe", "barb", "henry", "isabelle", "jack", "larry"]

week\_4 = ["abe", "barb", "chris", "dan", "ellie", "gabby", "henry", "isabelle", "jack"]

# define the list to hold the attendance

attendance\_report = [ ]

# ----------pseudo-code

# start the for loop on the given list python

# for each element x in the list

for x in python :

#create a temporary list called "student\_attendance"

student\_attendance = [ ]

#add x to student\_attendance list

student\_attendance.append(x)

#check if x is in week\_1.

if (x in week\_1):

#If yes, add "P" to student\_attendance\_list (indicating "Present")

student\_attendance.append("P")

#else (=no), add "A" to student\_attendance\_list (indicating "Absent")

else:

student\_attendance.append("A")

#

#check if x is in week\_2.

if (x in week\_2):

#If yes, add "P" to student\_attendance\_list (indicating "Present")

student\_attendance.append("P")

#else (=no), add "A" to student\_attendance\_list (indicating "Absent")

else:

student\_attendance.append("A")

#

#check if x is in week\_3.

if (x in week\_3):

#If yes, add "P" to student\_attendance\_list (indicating "Present")

student\_attendance.append("P")

#else (=no), add "A" to student\_attendance\_list (indicating "Absent")

else:

student\_attendance.append("A")

#

#check if x is in week\_4.

if (x in week\_4):

#If yes, add "P" to student\_attendance\_list (indicating "Present")

student\_attendance.append("P")

#else (=no), add "A" to student\_attendance\_list (indicating "Absent")

else:

student\_attendance.append("A")

print("Students name is ", x)

print("Students Attendence report is", \*student\_attendance)

#

#We now have a mini\_list called "student\_attendance" reflecting the attendance record of a student.

#Add that "student\_attendance" list to the attendance\_report list.

attendance\_report.append(student\_attendance)

#

#

# Once the for loop is done, we will have attendance\_list (a list of lists)

# reflecting the attendance report of all the students

# for example, -----> attendance\_report = [`["abe", "A", "P", "P"], ["barb", "P", "P", "P"], -----]

# print students attendance report. Unpack the list so that we get each element on a new line

for x in attendance\_report:

print(\*x)

# END -- your code

#=========================================