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#************************** 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
#-------------------------------------------------------------------------------
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#=========================================
# 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",
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"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
#=======================================
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#-------------------------------------------------------------------------
# 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
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# 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
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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
#=========================================
```