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# Name:      Higher 2023 Assignment
# Purpose:   Working Example - using Parallel Arrays
#
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Trinket link:

<https://trinket.io/python3/fbc5586a2f>

#1. ----- Read data from file into parallel arrays -----

```
def readFromFile(attraction, category, visitors, daysOpen, height):
    counter = 0
    with open("attractions.csv") as readfile:
        line = readfile.readline().rstrip("\n")
        while line:
            items = line.split(",")
            attraction[counter] = items[0]
            category[counter] = items[1]
            visitors[counter] = int(items[2])
            daysOpen[counter] = int(items[3])
            height[counter] = items[4]

            line = readfile.readline().rstrip("\n")

            counter += 1
    return attraction, category, visitors, daysOpen, height
```

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#2. ----- Find and display the names of the least visited

and the most visited attractions-----

```
def findMinMax(visitors, attraction):
```

```
#Find the maximum and minimum values from the visitors array
minimum = visitors[0]
maximum = visitors[0]
for x in range(len(visitors)):
    if visitors[x] < minimum:
        minimum = visitors[x]
    if visitors[x] > maximum:
```

1	Read data from file into parallel arrays	OUT	attraction(), category(), visitors(), daysOpen(), height()
2	Find and display the names of the least visited and most visited attractions	IN	attraction(), visitors()
3	Write to file the names of roller coasters that need a service within 7 days	IN	attraction(), category(), daysOpen()

Refinements

- 3.1 Create 'service.csv' file
- 3.2 Loop for each attraction
- 3.3 If current category is 'Roller Coaster' then
 - 3.4 Set days to current daysOpen modulus 90
 - 3.5 If (90 - days) is less than or equal to 7 then
 - 3.6 Write current attraction to file
 - 3.7 End if
 - 3.8 End if
- 3.9 End loop
- 3.10 Close 'service.csv' file

Running: 2023 Assignment.py

```
The attraction(s) with the least number of visitors are:
Beaver Falls with 95970 visitors.
Candyfloss Carousel with 95970 visitors.
*****
The attraction(s) with the most number of visitors are:
Thundergun Express with 712844 visitors.
>>>
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        maximum = visitors[x]

#Display all attractions equal to minimum number. Could be more than one
print("The attraction(s) with the least number of visitors are:")
for x in range(len(visitors)):
    if visitors[x] == minimum:
        print(attraction[x], "with ", visitors[x], "visitors.")

print("*****")

#Display all attractions equal to maximum number. Could be more than one
print("The attraction(s) with the most number of visitors are:")
for x in range(len(visitors)):
    if visitors[x] == maximum:
        print(attraction[x], "with ", visitors[x], "visitors.")

#-----
#3. Write to file the names of roller coasters that need serviced within 7 days.
def writeToFile(attraction, category, daysOpen):
    days = 0
    with open("service.csv", "w") as writeFile:
        writeFile.write("The attractions needing serviced are:"+"\n")
        for x in range(len(attraction)):
            if category[x] == "Roller Coaster":
                days = daysOpen[x]%90
                if (90 - days) <= 7:
                    writeFile.write(attraction[x]+"\\n")

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#Main program

#Declare parallel arrays
attraction = [""] * 26
category = [""] * 26
visitors = [0] * 26
daysOpen = [0] * 26
height = [""] * 26

```

The attractions needing serviced are:		
Asteroid Belt		
G-Force		
Sonic Boom		
Vortex		

#Call functions/subprograms

#1. Call Read data from file and return populated arrays

attraction,category,visitors,daysOpen, height = readFromFile(attraction, category, visitors, daysOpen, height)

#2. Call find/display least and most visited

findMinMax(visitors,attraction)

#3. Call Write to file when service is due within 7 days.

writeToFile(attraction, category, daysOpen)