COS 457/558: Database Systems
Fall 2021

Programming Assignment #1

Assignment:

You are given two raw text files, including **"Books.txt"** and **"Members.txt"**, which try to describe two entities within our small local library. Each text file uses different delimiters, such as **";"** and **"|"** to separate the attributes, plus one or two **hashtags** to illustrate end of line (EOL).

As you will see, the list of attributes is shown by the very first line of each text file. Below, please find the list of attributes along with their brief description.

File: **Books.txt**	
Attribute	**Description**
name	Book name
firstauthor	Book author
isbn	International Standard Book Number
publisher	Publisher name
borrowed	It is a Boolean attribute to show if a book borrowed or not (0: No | 1: Yes)
memberid	Id of the member who borrowed one or more than a book

File: **Members.txt**	
Attribute	**Description**
name	Name of a person who is borrowing one or more than a book.
family	Family of a person who is borrowing one or more than a book.
zipcode	Zipcode of a person who is borrowing one or more than a book.
memberid	Member ID of a person who is borrowing one or more than a book.
memberage	Age of a person who is borrowing one or more than a book.

Now, you please write/develop the following **functions** using **Python** or **Java** (or any other programming languages).

1) ***number_of_record (filename)***

This function gets a file name (e.g., Books.txt), and it should return the number of records we have within the given text file.

2) ***number_of_duplicates (filename)***

This function gets a file name (e.g., Books.txt), and it should return the number of duplicate records we have within the given text file.

3) ***print_publishers()***

This function will show all publishers we have within our small local library.

4) ***print_member_name_family()***

This function will show all our members by their names and families.

5) ***avg_age()***

This function calculates the average age of our members.

6) ***delete_member('Members.txt', memberid)***

This function deletes all records that contain the given *memberid*.

Submission:

You please submit all your codes (e.g., .py, .java) along with some sample outputs at the Brightspace system.

Due:

09/20/2021 (11:59pm EDT)

Questions:

Please don't hesitate to contact me with any questions/concerns you may have.
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