CIS 1202 – Unit 4 – Data Cleansing Program

(20 points)

Description:

Write a program that reads data from the csv file, prog4.txt and stores the data in an array. The program should read the data and verify that the first letter of the first and last name are capitalized and the date is in the correct format.

The CSV file contains values separated by commas, the first element is the first name, the second element is the last name, and the last element is the date of birth in a European format (dd-mm-yyyy)

- Each row of the csv file contains the following elements
  - First name (all lower case)
  - Last name (all lower case)
  - Date of birth (dd-mm-yyyy)

Requirements:

1. String Arrays
   a. Define a `userData array that you can store each rows' data into`
   b. Use the ifstream object to read file data into the array
   c. Define a rowData array to store the separate elements of each row into (this will allow you to easily apply string manipulations to each element of the array)
   d. Use any additional variables as you see fit to accomplish the tasks outlined below.

2. Use a menu-driven program with the following selections:
   1. Read and show file data as is
   2. Show file data cleansed
   3. Exit the program

3. Define the following 3 functions

   a. int displayMenu();
      Outputs the menu selections
      Inputs the users selection
      Validates that the user has entered a valid selection
   b. void `showFileDate` (string);
      Outputs the data in a tabular form directly from the file as is. This method takes an argument of file name.
   c. void `showFileDateCleansed` (string);
      Outputs the data in a tabular form with the first letter capitalized for the first and last name columns, also in this option the programmer must create an additional column labeled USA-Date (see the output file below), this column must use the EU-Date column, and convert the date from dd-mm-yyyy to the USA standard of mm-dd-yyyy. Ensure that if a day and or a month is less than 10, a leading zero is accounted for and added. For

example if a data is 1-12-2016, the conversion should be 01-12-2016. If a date is 22-9-2011, the conversion should be 22-09-2011 etc. This method takes an argument of file name.

Grading guidelines:

Criteria	Range – Low end (Did not do or very little effort)	Range – High end (Used correctly / demonstrated effort)
Correctly defined string arrays to handle file data	0	4
Correctly implemented required loops and functions that the program requires	0	8
Program executes without error and the output is Correct	0	4
Used meaningful variable names, comments to document the code, and the output is easy to read	0	2
The zipped program folder and screenshots of the console are uploaded to the drop box	0	2

Sample Output:

```
MENU
1: Read and show File Data as is
2: Show File Data Cleansed
3: Exit
Enter your choice :1
----------------------------------------------------
|First Name          Last Name          EU-Date  |
----------------------------------------------------
|theresa                allen          5-5-1989  |
|marie                freeman          1-10-1985  |
|benjamin              snyder          22-2-1999  |
|peter               morrison          10-09-2001 |
|karen                  ruiz          04-11-1975 |
|nancy                  ryan          1-6-1941  |
|lori              patterson          1-5-2005  |
|louise                greene          10-12-2007 |
|diane                   day          6-4-1998  |
|lillian              stewart          1-12-2002 |
----------------------------------------------------
MENU
1: Read and show File Data as is
2: Show File Data Cleansed
3: Exit
Enter your choice :2
------------------------------------------------------------------------
|First Name          Last Name          EU-Date          USA-Date  |
------------------------------------------------------------------------
|Theresa        Allen              5-5-1989          05-05-1989 |
|Marie          Freeman            1-10-1985          10-01-1985 |
|Benjamin       Snyder             22-2-1999          02-22-1999 |
|Peter          Morrison           10-09-2001         09-10-2001 |
|Karen          Ruiz               04-11-1975         11-04-1975 |
|Nancy          Ryan               1-6-1941          06-01-1941 |
|Lori           Patterson          1-5-2005          05-01-2005 |
|Louise         Greene             10-12-2007         12-10-2007 |
|Diane          Day                6-4-1998          04-06-1998 |
|Lillian        Stewart            1-12-2002          12-01-2002 |
------------------------------------------------------------------------
MENU
1: Read and show File Data as is
2: Show File Data Cleansed
3: Exit
Enter your choice :
```