H CS SDD RECAP - UFO

In the UK from 1994 to 2014 there were 2166 UFO Sighting Reported. Details of these sightings are included in the **ufo_sighting.csv** file.

	A	B	C	D	E	F	G	H	I
1	20/03/1994	England	City of London	51.514125	-0.093689	Other	Indefinate shaped craft changing colour from blue		
2	12/05/1994	England	Loughborough	52.772099	-1.206166	Disk	observed small ufo hovering over a field/farmhous		
3	12/06/1994	England	Northgate	51.116667	-0.183333	Triangle	It appeared over me and sat there. Once i looked		
4	30/06/1994	England	Westminster	51.508515	-0.125487	Circle	i was about 9 years old when i was at my cousins		
5	30/06/1994	England	Wadworth	53.466667	-1.15	Triangle	Black Triangle over Wadworth UK 1994/95		
6	07/07/1994	England	Chawton	51.14869	-0.9872	Rectangle	Daylight. Large rectangular (not cigar) stationary i		
7	01/08/1994	Scotland	Lenzie	55.923579	-4.155641	Light	Vibrating&#44 moving&#44 dissapearing &#39sta		
8	15/08/1994	England	West Northampt	52.355518	-1.17432	Oval	White disc shaped moving very fast North west di		
9	14/09/1994	England	Huntingdon	52.33146	-0.182552	Triangle	Triangular silent aerial vehicle&#44 big&#44 lights		
10	26/10/1994	England	Brixham	50.39514	-3.513924	Sphere	the object moved at speed from one place to enot		

The contents of the file are in chronological order, the most recent sightings are at the bottom.

Use the program stub found here:
https://github.com/csteachian/SQA_H_Computing/tree/main/Software%20Design%20and%20Development/RECAP%20-%20UFO

The CSV file has been imported into your program using the importFile() function - there is no need for you to edit this function.

In this task you are going to implement a range of functions & procedures that do the following:

1. Calculate & Display the Number of Sightings in Each Country.
2. Find & Display the Number of Sightings in Each Year.
3. Display the details of any sightings for a specific location.

Task 1: Calculate & Display the Number of Sightings in Each Country

The **ufo_sighting.csv** file contains the sightings for each country - England, Scotland, Wales & Northern Ireland.

You must implement the functions and procedures that will calculate and then display the number of sightings for each country within the United Kingdom.

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TOP LEVEL DESIGN

1. *CountSightings()*
   Count the number of sightings for a specified country.
   IN: country[], specifiedCountry
   OUT: numSightings

2. *DisplaySightings()*
   Display the number of sightings for a specific country.
   IN: specifiedCountry, numSightings
   OUT:

The output of the program should be as follows:

```
There were 1824 sightings in England
There were 201 sightings in Scotland
There were 117 sightings in Wales
There were 24 sightings in Northern Ireland
```

Task 2: Find & Display the Number of Sightings in Each Year

The **ufo_sighting.csv** file contains sightings from 1994 to 2014 in chronological order. This means sightings from 1994 are shown first.

You must implement a function to identify the number of sightings per year.

The output of the program will look something like this:

```
1994: 11
1995: 16
1996: 27
1997: 40
1998: 43
1999: 62
...
...
```

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TOP LEVEL DESIGN

1. *CountYearSightings()*
   Count the sightings each year.
   IN: thisDate [ ]
   OUT:

Note: the date is stored in the dd/mm/yyyy format, so a sub-string will be required to extract the year.

To implement this function you will be required to look at each date. If a date matches the next date in the array, increment the count by 1. If it doesn't match, display the date and the count, then reset it.

Task 3: Find Sightings for a Specified Location.

The user is asked for a specified location. The function should then look at each sighting and, if the locations match, display its details on the screen.

If no matches are found for a specified location, an appropriate error message should be displayed.

TOP LEVEL DESIGN

1. *FindSightingsByLocation()*
   Count the sightings each year.
   IN: location [ ], thisDate [ ], shape [ ], description [ ]
   OUT:

The output of the program will look something like this:

```
Enter a location to search for: Durham
03/06/1995, Other, Dim small light shoots across sky in wavy line&#44
nmo tail
23/09/2004, Unknown, it looked like a shooting star but lasted
longer&#44 not as bright and then curved round before dissapearing. it
travelled in an east-nort
18/11/2005, Light, six lights in the moors flashing at each other.
…
…
```

Upload your finished code to your GitHub and share a link as a private comment in Google Classroom.