Java Programming: Solving Problems with Software

Programming Exercise: Parsing Export Data

The CSV file **exportdata.csv**has information on the export products of countries. In particular it has three column headers labeled **Country**,**Exports**,and **Value (dollars)**.The **Country**column represents a country from the world, the **Exports**column is a list of export items for a country, and the **Value (dollars)**column is the dollar amount in millions of their exports in the format of a dollar sign, followed by an integer number with a comma separator every three digits from the right. An example of such a number might be “$400,000,000”.

The CSV file **exportdatasmall.csv**is a smaller version of the file above with the same columns that you may find helpful in testing your program. We show a picture of it here.

Write the following program. Be sure to see the sample program in this video.

1. Write a method named tester that will create your CSVParser and call each of the methods below. You would start your code with:

FileResourcefr=newFileResource(); CSVParserparser=fr.getCSVParser();

Each time you want to use the parser with another method, you will need to reset the parser with this statement before calling that method.

2. Write a method named **countryInfo**that has two parameters, **parser**is a **CSVParser**and **country**is a String. This method returns a string of information about the country or returns “NOT FOUND” if there is no information about the country. The format of the string returned is the country, followed by “: “, followed by a list of the countries’ exports, followed by “: “, followed by the country's export value. For example, using the file **exportdatasmall.csv**and the country Germany, the program returns the string:

Germany: motorvehicles,machinery,chemicals:$1,547,000,000,000

3 . W r i t e a v o i d m e t h o d n a m e d **li s t Exporters T w o P r o d u c t s** t h a t h a s t h r e e p a r a m e t e r s , **pa r s e r** i s a **CSVParser**,**exportItem1**is a String and **exportItem2**is a String. This method prints the names of all the countries that have both **exportItem1**and **exportItem2**as export items. For example, using the file **exportdatasmall.csv**,this method called with the items “gold” and “diamonds” would print the countries

4. Write a method named **numberOfExporters**,which has two parameters, **parser**is a **CSVParser**, and **exportItem**is a String. This method returns the number of countries that export

exportItem.For example, using the file **exportdatasmall.csv**,this method called with the item “gold” would return 3.

5. Write a void method named **bigExporters**that has two parameters, **parser**is a **CSVParser**,and **amount**is a String in the format of a dollar sign, followed by an integer number with a comma separator every three digits from the right. An example of such a string might be “$400,000,000”. This method prints the names of countries and their Value amount for all countries whose Value (dollars) string is larger than the amount string. For example, if **bigExporters**is called with the file **exportdatasmall.csv**and amount with the string $999,999,999, then this method would print eight countries and their export values shown here