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# **Java File I/O**

## Assignment (Lab 3)

This assignment supports competency development and mastery. Upon completion of this assignment, students will:

* Write Java code to generate a report based on a given file
* Test the Java code

## **Directions:**

1. Complete the steps in the assignment below
2. Save your code (.java file) and your results output into a .ZIP file with the following format: firstname-lastname-JavaIO-date

**EXAMPLE**: mary-smith-JavaIO-08212019

1. Then, upload (submit) the file to the corresponding assignment link.

## **Java File I/O Assignment:**

1. Write a Java program to generate a report based on this file. Be careful and test your code well. You will re-use some of this code in a later lab.

2. Download the starter file Lab3.zip from Blackboard. Use **7zip** (or another zip utility) to unzip the file using “Extract Here.” Then open the unzipped **Lab3** project with IntelliJ. The project will contain **FOUR** files:

* Surnames\_2010Census.csv – the census data project
* Main.java – the Main class containing a pre-written Main method
* Census.java – a class that contains a partially-written loadCensusData() method that you will complete to read and process the census data file
* Surname.java – a class that holds one surname and its related metadata

3. For the Surname class you will need to add the constructor, and accessors and mutators.

4. The Census class contains a loadCensusData() method you will complete that will read and process the census data file. The filename of the census data file is passed in as a parameter. Make sure that you skip the line of the file that only contains column headings.

5. Read the first one hundred surnames in the file. Read each line containing a surname as a single String.

6. Use the String method split(“,”) to split each String into an array of Strings split at the comma delimiter. See the documentation on the Java String class for details of the split() method:

<https://docs.oracle.com/javase/10/docs/api/java/lang/String.html#split(java.lang.String)>

**Note**: you can ignore the cumulative proportion field.

7. Use the Integer.parseInt() and Double.parseDouble() methods to convert Strings to int and double respectively.

8. Be sure and catch FileNotFoundException and NumberFormatException. Output an appropriate error message and have the method return a null.

9. Once the method has processed the file, it will return an array of 100 Surname objects.

## Example Output

Rank Name

1 SMITH

2 JOHNSON

3 WILLIAMS

4 BROWN

5 JONES

*. . . many more lines of the report . . .*

95 PATEL

96 MYERS

97 LONG

98 ROSS

99 FOSTER

100 JIMENEZ