**​​Lab - Working with CSV Files​**

**Objectives**

**Part 1: Opening a CSV File**

**Part 2: Creating a CSV File**

**Part 3: Fixing Common Errors in Importing CSV Files**

**Background / Scenario**

CSVs are not the same as traditional spreadsheets because they do not have the saved cell, column, or row values, nor do they contain formulas. CSV files can contain numbers and letters only, even though in Microsoft Excel or Google Sheets the CSV file may look like a traditional spreadsheet.

CSV files are plain text files, which makes them easier for a developer to create, and easier for you to import into a spreadsheet or storage database regardless of software.

CSV files are easy to organize and manipulate and are primarily used for importing and exporting information to and from the source database. They are also easy to convert into traditional file formats like .xls/.xlsx, .txt, or .html.

Usually, the first row in a CSV file contains the table column labels. Each of the subsequent lines represents a row of the table. Commas separate each cell in the row, which is where the name “Comma Separated Values” comes from.

**Required Resources**

Mobile device or PC/laptop with a browser, Microsoft Excel, and internet access.

**Note**: The precise steps to format and manipulate data in Excel can vary between platforms and versions. The instructions in this lab are based on the free version of Excel available from Office.com and may have to be modified to match the user’s platform, software, or version to achieve the results shown in this lab.

**Instructions**

**Part 1: Opening a CSV File**

**Step 1: Open the Bike Sales\_Lab.csv file in a text editor.**

1. Open the downloaded **Bike Sales\_Lab.csv** in Notepad or another text editor.  
   Right click the file and select **Open With** > **Notepad**.  
   Alternatively, launch Notepad and select **File** > **Open** then navigate to the directory containing the Bike Sales\_Lab.csv file. Change Notepad to look for **All Files**, then select the Bike Sales\_Lab.csv file and click **Open**.
2. Review the data in the text editor to answer the following questions:

How many columns are in the file? What are the column headings?

What is the delimiter used to separate the columns?

Answer. Commas

Close the text editor when done.

**Step 2: Open the Bike Sales\_Lab.csv file in Excel.**

Open the **Bike Sales\_Lab.csv** in Excel

How many columns are displayed in Excel? Are these the same columns that you noted in the previous step when opening the file in a text editor?

6 Column. This are the column names:

* **Date**
* **Age\_Group**
* **Product\_Category**
* **Order\_Quantity**
* **Unit\_Price**
* **Revenue”.**

**Part 2: Creating a CSV File**

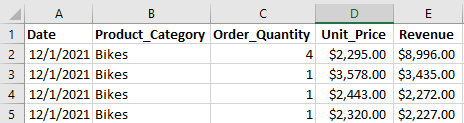
Many applications or websites require data uploaded as a CSV. The free version of Excel from Office.com does not support saving as a .csv file; however, the full version of Excel and the free OpenOffice spreadsheets software, called Calc, both do.

*Please Note*: The steps that follow are true for either the full version of Excel or OpenOffice Calc.

**Step 1: Launch a paid version of Excel or the free OpenOffice Calc.**

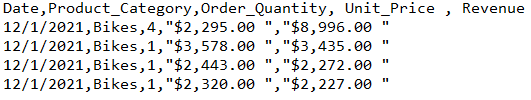
**Step 2: Enter data into a blank worksheet.**

Enter the following data into a worksheet as shown.



**Step 3: Save the worksheet as a CSV file.**

1. To save your worksheet as a CSV file, select **File > Save** As. Choose a destination directory, name the file “**MyCSV**”, and save it as a **CSV (Comma delimited)(\*.csv)** if you’re using Excel, or as **Text CSV (.csv)(\*.csv)** if using OpenOffice.  
   **(1)** If using OpenOffice, you will be prompted with a pop-up window about file formatting; click the **Keep Current Format** button. Next, in the **Export Text File** window, keep the defaults and click **OK**.
2. After saving the file, navigate to the destination directory, and open it in Notepad or another text editor. The file should look similar to the figure below. The file is ready to upload to the desired application.



**Part 3: Fixing Common Errors in Importing CSV Files**

If you work with importing CSV files, you will eventually run into input errors. Data can be messy, and imports do not always work flawlessly.

When importing CSV files, there are a few common issues that often occur, and are detailed below.

**Incorrect File Type Error**

If you attempt to import a CSV file without the .csv extension, you will get an error like the one below. This could happen if you created your file in a text editor and forgot to save it as a ".CSV" file type (instead, it may be a ".TXT" file). Or, perhaps you used Excel and forgot to save as CSV, but just left it as the default ".xlsx".

*You attempted to upload file type that is not allowed. Please upload files in .csv format only.*

If you received the above error, how would you change the extension to fix the error, assuming the data contents are correct?

Answer Area It was the saving format

**Missing Header Row Error**

This is also a very common error if the expected header titles are not in row 1. The message received will be **invalid header**, **no header found**, or something like this:

*This file contains the following formatting errors:*

* The specified CSV file is invalid. The first 6 columns must be ID, Title, Year Released, Genre, Director, and Gross.

Please fix the errors and try to upload again.

To fix this error, you need to open the .csv file and add the expected headers into row 1.

How would you add the missing header row in Excel?

Answer Area. Insert a new line from the data.

How would you add the missing header row in a text editor?

Answer Area. In the text editor

**Missing Information in Columns and/or Rows**

Another common error involves missing data in the columns or rows of the data set. Typically, if you receive an error to the effect of "empty column found" (or similar) it is because you have a column header with no data in that column or data missing from cells in a column. In other words, your first line has more data, and more delimiters, than one or more of the subsequent lines. Below is an example of an error message:

*This file contains the following formatting errors:*

* Line 2: No Title

*Please fix the errors and try to upload again.*

This error can be fixed after adding the missing data, where appropriate, in the empty cells in Excel.

How would you locate the empty cells in Excel? Perform an internet search for **how to find blank cells in Excel** if necessary.

Answer .You can open the CSV file in Excel, go to the "Home" tab, and click "Find & Select." Then choose "Go To Special" and select "Blanks" to highlight empty cells. Fill in the missing data and save the file as a CSV again.

**Challenge Activity**

So far, most of the data sets in the activities have been relatively small. How would you locate all the blank entries in a large worksheet where you cannot easily see if you have identified all the blank cells?

What Excel functions can help you ensure that all the blank cells are located? Perform an internet search as needed.

Answer / The COUNTBLANK function to count the number of empty cells: =COUNTBLANK(range).