Importing and Formatting Data

Objectives

- Identify the ways that organizations can share data across applications
- Identify the types of structured data that can be used by Excel
- Import data using different methods
- Apply standard formatting

Introduction

Data and Information do **not** refer to the same thing. Data is simply a collection of facts that have been recorded about an item, while information is data that has been transformed into a useful form. For example, a *Point of Sale* (POS) system used by a grocery store chain will collect a very large quantity of data over a relatively short period of time – when that data has been summarized and grouped into a report comparing *Sales by Store* for a particular time period; it has been turned into useful information.

Excel is not designed to collect and store the quantity of data that is generated even by a relatively small organization – Excel's strengths lie in its ability to transform data into useful information by *analyzing* data and *modeling* business scenarios. Back-end database management systems such as *Transaction Processing Systems* and *Management Information Systems* are used by to *collect, store*, and *summarize* operational data. These systems can provide managers with information in the form of *periodic summary* reports that can be used for purposes such as *Inventory Replenishment* and *Staff Scheduling*, but do not have the ability to analyze data in ways that can support more sophisticated decision making.

The data stored in organizational systems can usually be *exported* in a format that can then be *imported* into Excel so that managers can take advantage of Excel's data analysis tools. Database Management Systems that store data in a tabular format can be read directly by Excel, and other systems can output structured data into a text file using *delimiters* so that Excel can *parse* the data into structured columns and rows. A *delimiter* is a character that signals the end of a data element or the end of a data record. Typical delimiters are *Commas*, *Tabs*, or even *Spaces*. When Excel reads the resulting text file, it uses the *delimiters* to structure the data into a tabular format through the process called "*parsing*".

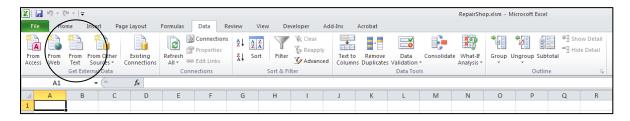
Import a Text File

In these examples you will use three different methods to import a delimited text file into Excel.

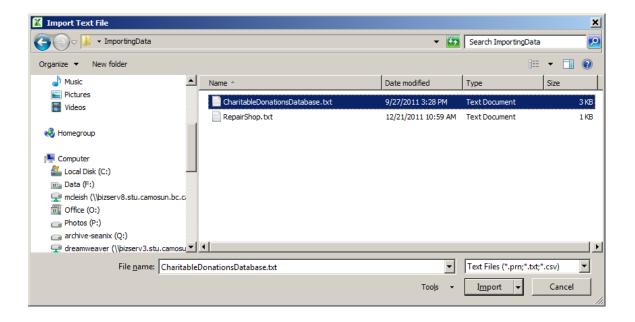
Method 1: Import the Data to an Existing Worksheet

You can import data into an existing worksheet using the Data tab of the Ribbon.

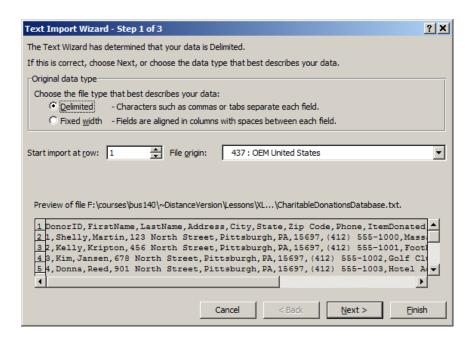
- 1. Start Excel and save the file into your storage folder as *ImportingData–LastnameFirstname* (using your own name in place of lastname firstname (e.g. ImportingData–GatesBill).
- 2. Rename the Sheet1 worksheet tab: DataImport
- 3. Select **cell A1** (the cell where the import should begin).
- 4. Click the *Data* tab on the *Ribbon* and then click the *From Text* button in the *Get External Data* group.



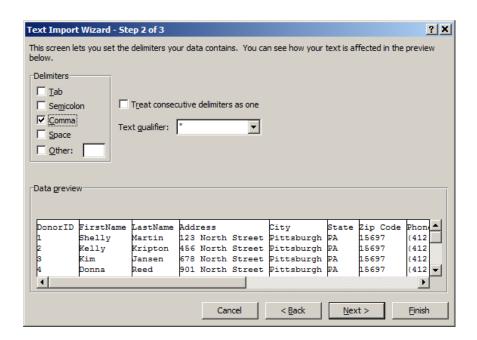
5. In the *Import Text File* dialog box, navigate to the folder containing the text file you want to import, select the file, and then click *Import*. In this exercise you will select the file *CharitableDonationsDatabase.txt*.



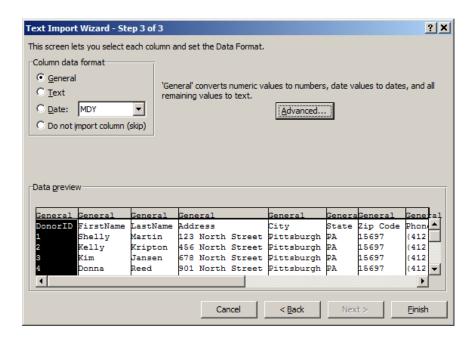
6. The *Text Import Wizard* dialog box opens so that you can **parse** the incoming data. In the *Text Import Wizard Step 1 of 3*, you specify whether the original file is *Delimited* or *Fixed width*. Notice that the *Preview* box shows the content of the file, and that it is delimited with commas. Click *Next*.



7. In the *Text Import Wizard Step 2 of 3*, you specify which character is used as the *delimiter*. The *Tab* character is the default setting. Notice that the *Preview* does not show the data organized in columns and rows – you must set the *Delimiter* to *Comma* as shown below. The *Preview* box now shows the data correctly parsed into columns and rows. Click *Next*.



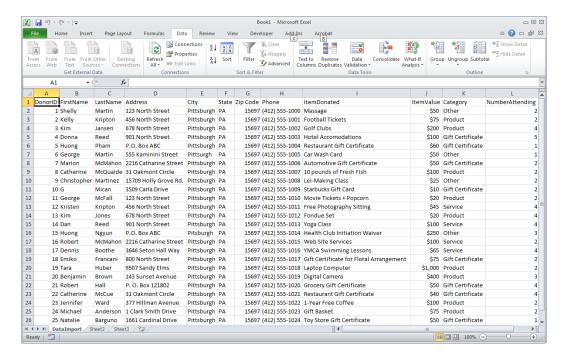
8. In the *Text Import Wizard Step 3 of 3*, you specify what type of data is contained in each column (field) you are planning to import. You can choose from *General* (which is Excel's default data type), *Text*, or *Date*; and you can cancel the import of any selected column using the *Do not import column (skip)* option. In most cases you can just accept the *General* format for each column and let Excel decide. Click *Finish*.



9. In the *Import Data* dialog box, click *OK* to confirm that the data is to be imported into the selected cell on the current worksheet, or modify the settings as required and then click *OK*.



10. The data is imported and set up in columns as shown below:



Method 2: Copy and Paste

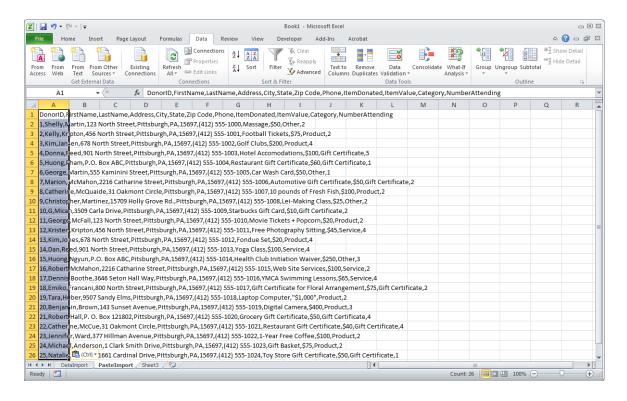
Data can also be imported to an existing worksheet using the Copy and Paste method.

- 1. In the currently open Excel workbook, rename the Sheet2 tab to: PasteImport.
- 2. Make the *PasteImport* sheet the active worksheet.
- 3. Switch to the folder containing the *CharitableDonationsDatabase.txt* file and double-click the file to open it into Notepad.

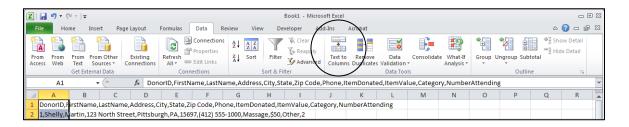


Press Ctrl+A to select the entire contents of the file and then press Ctrl+C to copy the contents
of the file to the Windows Clipboard.

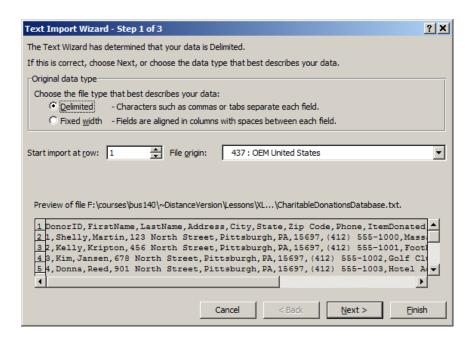
- 5. Switch back to Excel and select **cell A1** on the *PasteImport* worksheet.
- 6. Press **Ctrl+V** to paste the data into Excel. The data will be pasted into *Column A* as shown below and now needs to be parsed into columns.



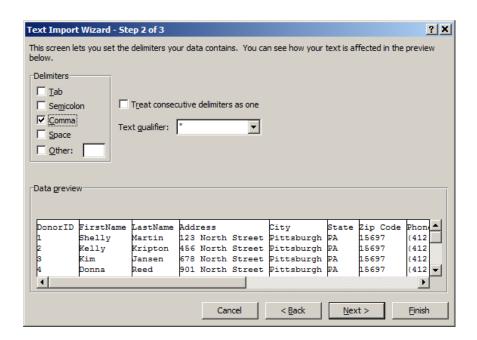
7. Click the *Data* tab on the *Ribbon* and then click the *Text to Columns* button in the *Data Tools* group.



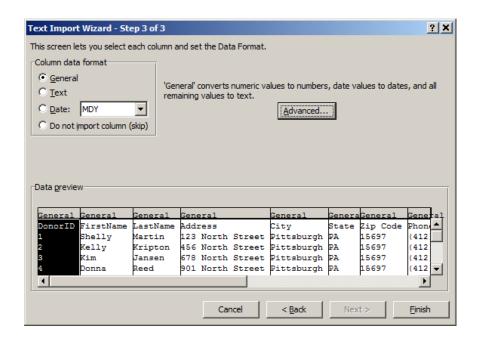
8. The *Text Import Wizard* dialog box opens so that you can **parse** the incoming data. In the *Text Import Wizard Step 1 of 3*, you specify whether the original file is *Delimited* or *Fixed width*. Notice that the *Preview* box shows the content of the file, and that it is delimited with commas. Click *Next*.



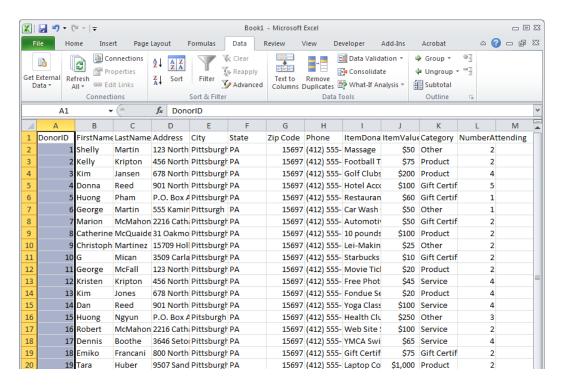
9. In the *Text Import Wizard Step 2 of 3*, you specify which character is used as the *delimiter*. The *Tab* character is the default setting. Notice that the *Preview* does not show the data organized in columns and rows – you must set the *Delimiter* to *Comma* as shown below. The *Preview* box now shows the data correctly parsed into columns and rows. Click *Next*.



10. In the *Text Import Wizard Step 3 of 3*, you specify what type of data is contained in each column (field) you are planning to import. You can choose from *General* (which is Excel's default data type), *Text*, or *Date*; and you can cancel the import of any selected column using the *Do not import column (skip)* option. In most cases you can just accept the *General* format for each column and let Excel decide. Click *Finish*.



11. The data is imported and set up in columns as shown below:

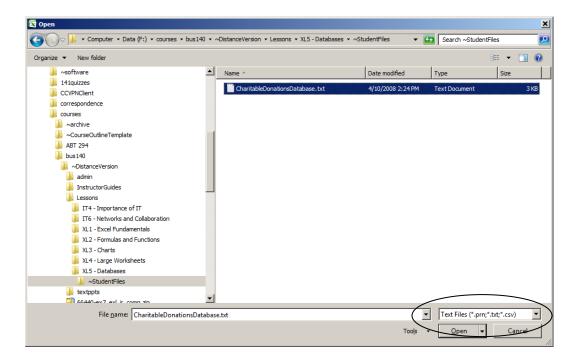


12. Save and close the file.

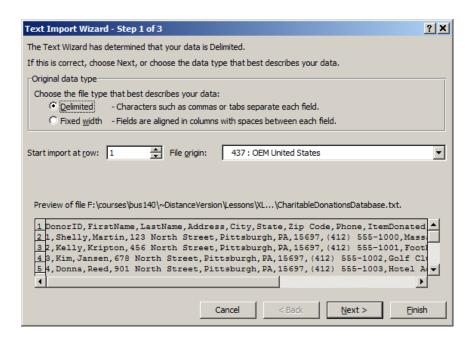
Method 3: Open the File Directly into Excel

Data can also be imported by opening a text or other delimited file directly using the **File | Open** command in Excel.

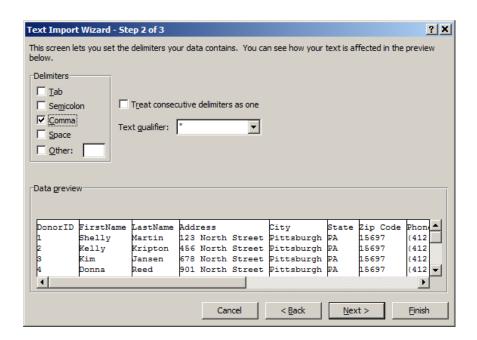
- 1. Start Excel if necessary and create a new workbook.
- 2. Use the File Tab to open the Backstage menu and choose Open to launch the Open dialog box.
- 3. The *Open* dialog box filters the list of files to be opened by type. The default setting is to show Excel files.
- 4. Located just above the *Open* and *Cancel* buttons, there is a *File Type* text box that allows you to select the type of file that you want to open. Open the pop-up and notice that Excel can open several different file types including *Access* databases, *Web* pages, *Text* files, and many others.
- 5. Select *Text files* (*.prn; *.txt; *.csv). These are some of the text file formats that Excel can open (*.prn are printer files, *.txt are text files, and *.csv are comma separated values files)
- 6. Navigate to your storage folder and select *CharitableDonationsDatabase.txt* and then click *Open*.



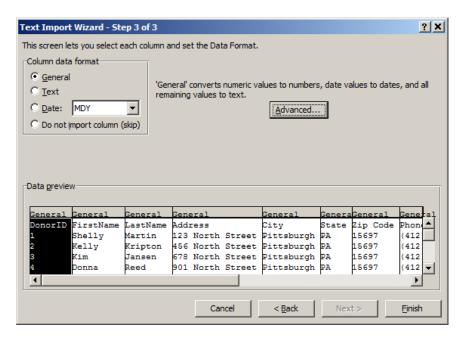
7. The *Text Import Wizard* dialog box opens so that you can **parse** the incoming data. In the *Text Import Wizard Step 1 of 3*, you specify whether the original file is *Delimited* or *Fixed width*. Notice that the *Preview* box shows the content of the file, and that it is delimited with commas. Click *Next*.



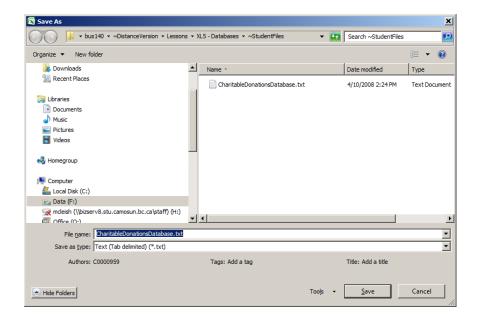
8. In the *Text Import Wizard Step 2 of 3*, you specify which character is used as the *delimiter*. The *Tab* character is the default setting. Notice that the *Preview* does not show the data organized in columns and rows – you must set the *Delimiter* to *Comma* as shown below. The *Preview* box now shows the data correctly parsed into columns and rows. Click *Next*.



9. In the *Text Import Wizard Step 3 of 3*, you specify what type of data is contained in each column (field) you are planning to import. You can choose from *General* (which is Excel's default data type), *Text*, or *Date*; and you can cancel the import of any selected column using the *Do not import column (skip)* option. In most cases you can just accept the *General* format for each column and let Excel decide. Click *Finish*.

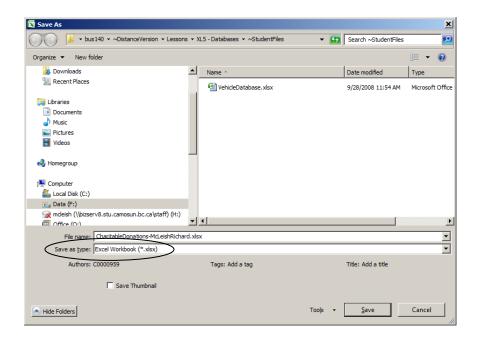


10. Use the *Office Button* to open the *Office* menu and choose *Save As* to launch the *Save As* dialog box. Notice that Excel is proposing to save the file as a *Text* file that is *Tab delimited*.



11. This next step is critically important as any formatting will be lost unless you change the file type to *Excel Workbook*.

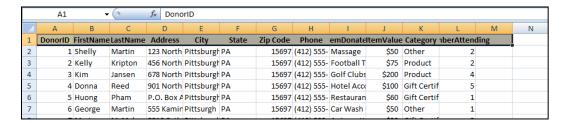
Reset the *Save as type* option to *Excel Workbook* and change the file name to *CharitableDonations – LastnameFirstname* (using your own name in place of lastname firstname (e.g. CharitableDonations – GatesBill). Click *Save*.



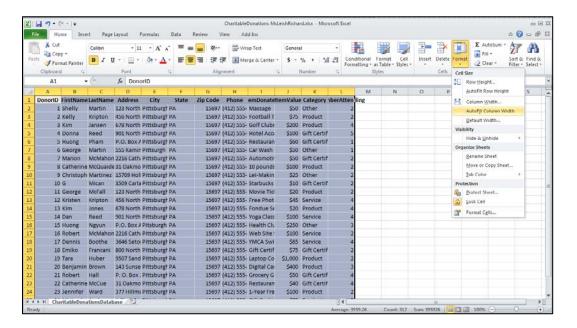
Format and Sort Data

Imported data will often need to be sorted and formatted. In this part of the exercise, you will apply formatting to the file and then sort the records.

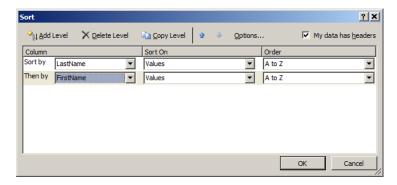
1. Bold, Centre, and Fill the Header Row (row 1) as shown below.



2. Select the data (cells **A1:L26**). Click the *Format* button in the *Cells* group on the *Home* tab of the *Ribbon* and choose *AutoFit Column Width* to widen the columns to the best fit.



3. Use the Sort dialog box (Data tab) to Sort by LastName Then By FirstName.



- 4. Save the file.
- 5. If requested, print and then upload the file according to your instructor's specifications.