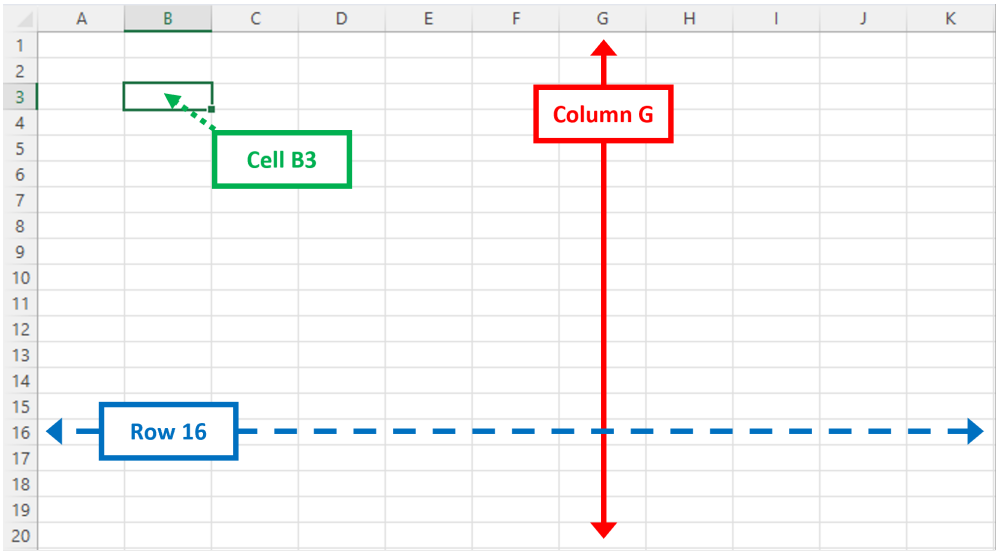
Lecture Note #1: An Introduction

BUSI 201: Business Data Analysis

Fall 2023

Topic 1. What are Spreadsheets

Spreadsheets are no more than a collection of data organized into columns and rows. One can visualize columns as "data stacked on top of another", while rows are "data standing side-by-side". Each intersection of a column and a row are called "cells", which hold the data. A collection of these cells that hold data is a spreadsheet.



Columns are enumerated by a total of 16,384 alphabets, and rows in 1,048,576 numbers. So, there are a total of 17,179,869,184 cells in one sheet on Excel. It is convention to report cells by citing the column followed by the row (i.e. `W18`). You don't need to memorize the numbers, but should remember that there are some limits to the dimensions of data that Excel can handle.

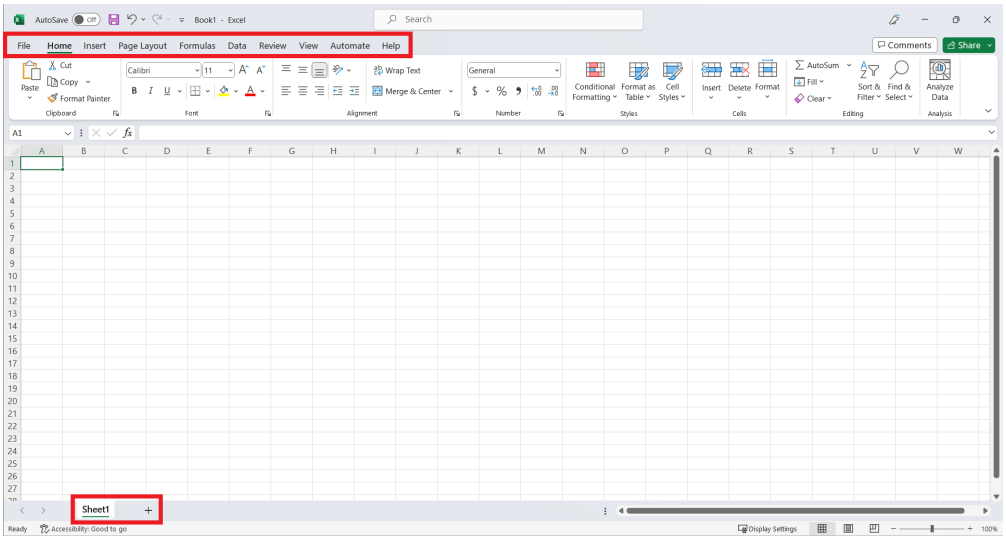
- Columns: `A`, `B`, $\cdots$, `Z`, `AA`, `AB`, $\cdots$, `ZZ`, `AAA`, `AAB`, $\cdots$, `XFD`
- Rows: `1`, `2`, $\cdots$, `1048576`
- Cells: `A1`, `A2`, $\cdots$, `XFD1048576`

So, cells can hold data. Entering data in cells is as simple as clicking (or navigating to the cell you want with the arrow keys on the keyboard) on the cell you want to store data in, and then typing the desired

information. Try experimenting with different things; words, numbers, dates, prices, and see how Excel may (or may not) change the format of the input.

A little bit more on the basic interface of Excel... Once you open up a new Excel document, you will notice on the bottom that you are on `Sheet 1` that indicates you are on the first (and only) sheet in this document named `Book1.xlsx`.[1] You can right click `Sheet 1` and rename/copy/delete the worksheet if you desire.

To the immediate right, there should be a `+`, which allows you to add extra sheets in the document `Book1.xlsx`. Once you have created multiple sheets in one document, you can move between the sheets by clicking on the desired sheet on the bottom. If you are running the PC version of Excel, `ctrl`+`pageup` or `ctrl`+`pagedown` should also work.

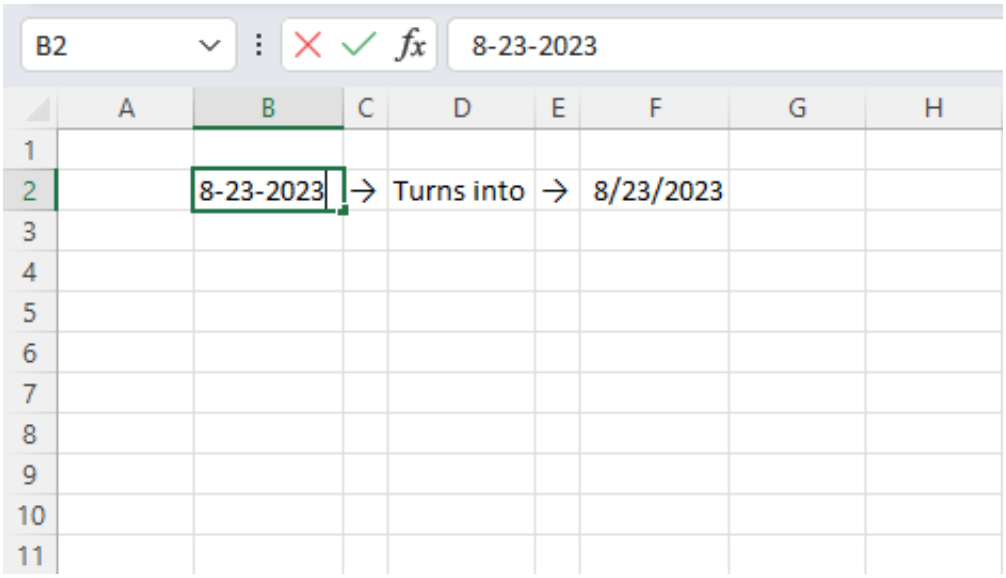


It is also useful to take a look at the quick access toolbar near the top of the Excel screen. We will be returning to the quick access toolbar as we begin to explore more of the functions that Excel has to offer.

[1] `Book.xlsx` if you are on Microsoft 365.

Topic 2. Formats

Excel usually does a pretty good job recognizing the type of data you input, and selects the appropriate "format" for the job. For instance, try typing `8-23-2023` into any cell, and it should recognize that it is a "date", and will format that information for you accordingly as seen in cell `F2`.



All cells in Excel are initially coded as `General`, which can be changed into different formats. Typically you will see that Excel recognizes currency and dates. If you input `1/2` into a cell, it will most likely think that you mean "January 2nd", and autmatically change the cell's format into dates to display `2-Jan`. If you want to have Excel understand that you want the number $\frac{1}{2}$ instead, you should input `=1/2`.

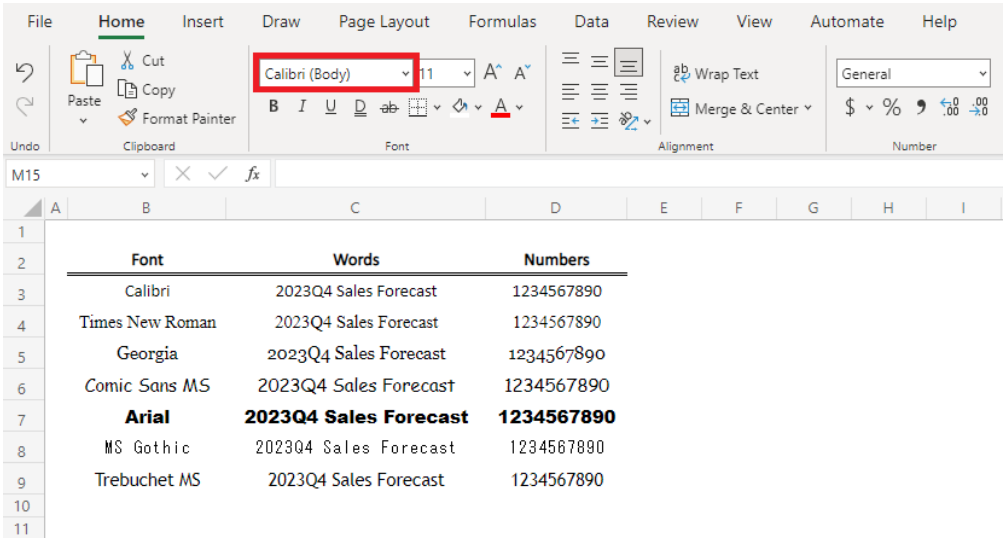
I encourage you to take a look at the various formats available, which include:

- General
- Number
- Currency
- Accounting
- Date
- Time
- Percentage
- Fraction
- Scientific
- Text
- Special
- Custom

Please navigate to sheet `Format` of workbook `BUSI-201-LEC01.xlsx` and check out some of the formats. These include some custom formats that we will eventually look into later in the semester. At this moment, feel free to ignore the `Detail` column of the table.

Topic 3. Fonts and Sizes

The default font in Excel is Calibri, which is completely fine to use in most settings. However, you might want to try out different fonts which may better suit the situation, or is required by your job, or by personal preference. If you want to change the font of a specific cell (or range of cells), you should navigate to the `Home` tab, and choose the font of choice. The figure below provides a small selection of the fonts offered in Excel.



Font	Words	Numbers
Calibri	2023Q4 Sales Forecast	1234567890
Times New Roman	2023Q4 Sales Forecast	1234567890
Georgia	2023Q4 Sales Forecast	1234567890
Comic Sans MS	2023Q4 Sales Forecast	1234567890
Arial	**2023Q4 Sales Forecast**	**1234567890**
MS Gothic	2023Q4 Sales Forecast	1234567890
Trebuchet MS	2023Q4 Sales Forecast	1234567890

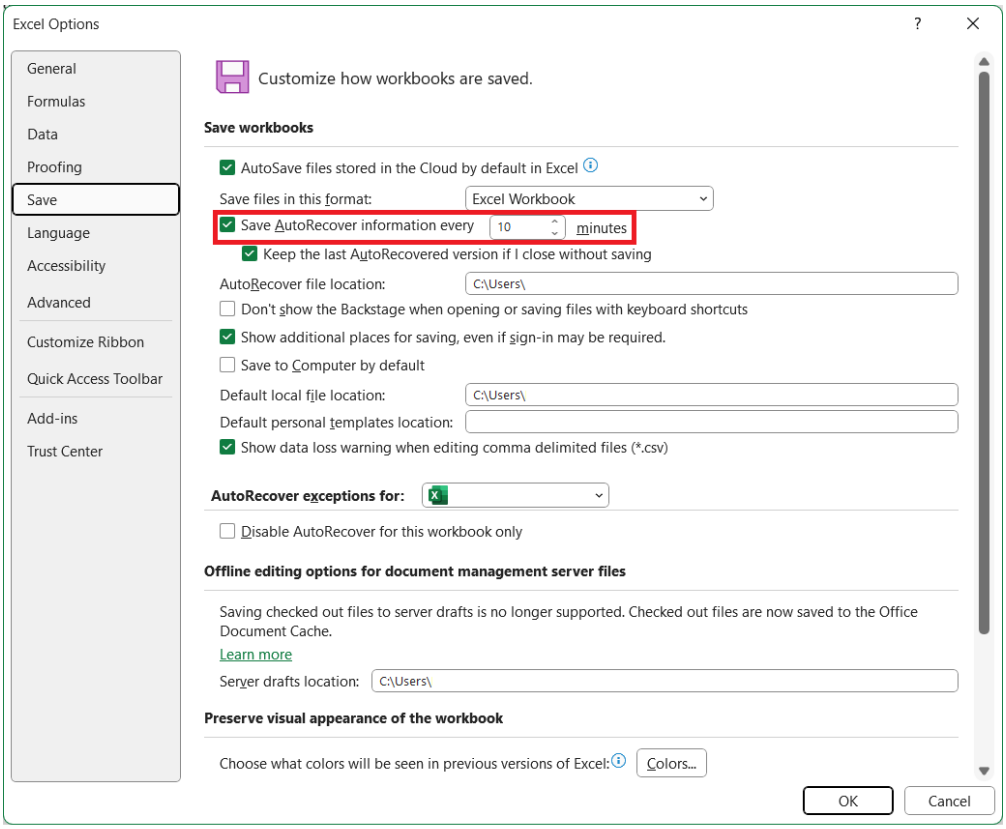
If you have a specific font that you would like to substitute as your default font, you can navigate to `File`→`Options`→`General`→`Use this as the default font`, and choose the font of your choice.

To the right of the font selector, you can find the text size option. After selecting a cell that contains content of which you wish to change the text size, you can change the text size.

Text Size	Words	Numbers
11	2023Q4 Sales Forecast	1234567890
12	2023Q4 Sales Forecast	1234567890
14	2023Q4 Sales Forecast	1234567890
16	2023Q4 Sales Forecast	1234567890
18	2023Q4 Sales Forecast	1234567890
20	2023Q4 Sales Forecast	1234567890
22	2023Q4 Sales Forecast	1234567890

Topic 4. Auto Recovery Options

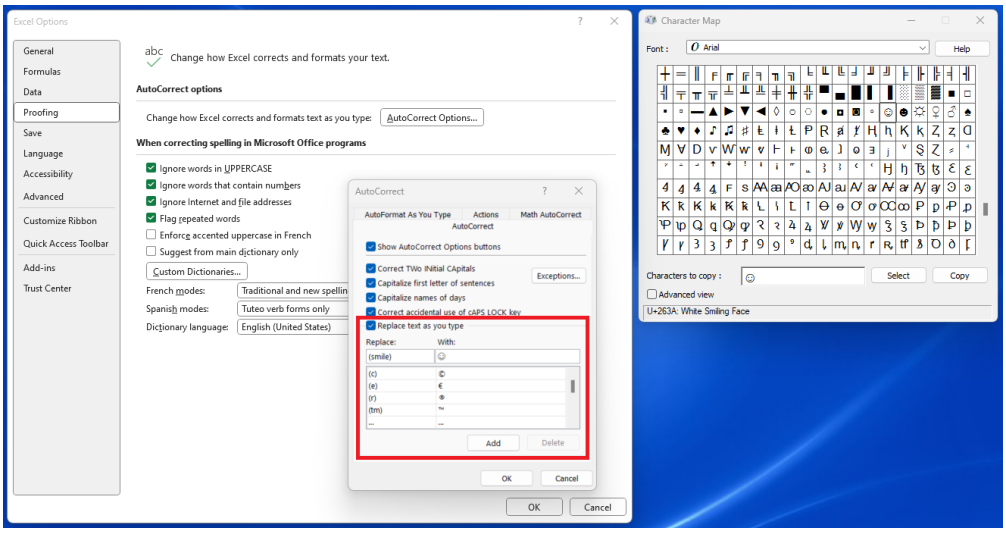
Now that we ususally work on laptops, this phenomenon is growing increasingly rare, but a sudden loss of electricity leading to hours of work lost is still something that can happen. It is best practice to set up Excel so that it automatically saves your progress. In order to do so, navigate to `File`→`Options`→`Save`. Then you will encounter the following window:



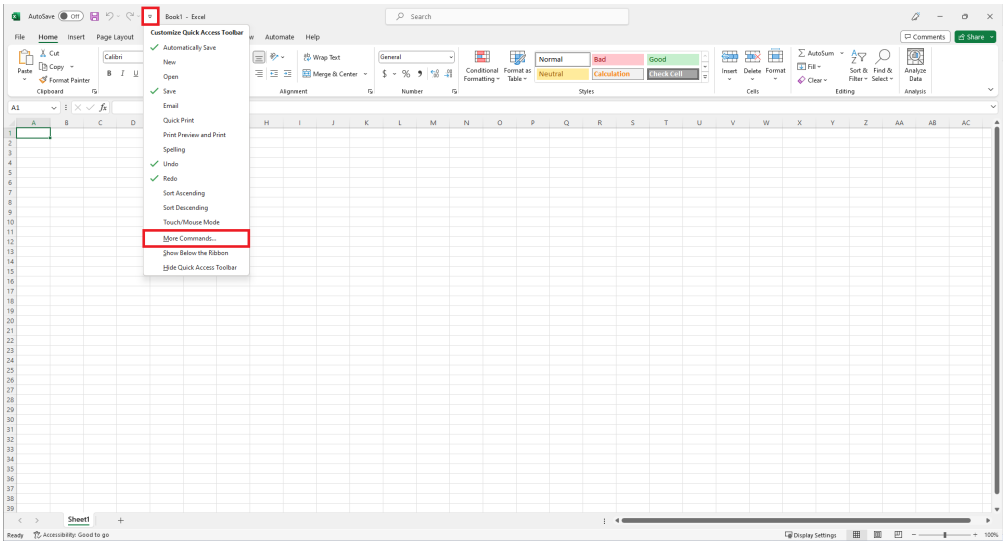
The default autosave frequency should be set to 10 minutes, and the minimum interval is 1 minute. Saving frequently ensures that you lose the minimum amount of work should disaster strike, but it also may cause performance issues if the device is old, the spreadsheet contains vast data, there are many functions used, etc. This setting is completely up to your own preferences and risk tolerance.

Topic 5. Creating Custom Shortcuts

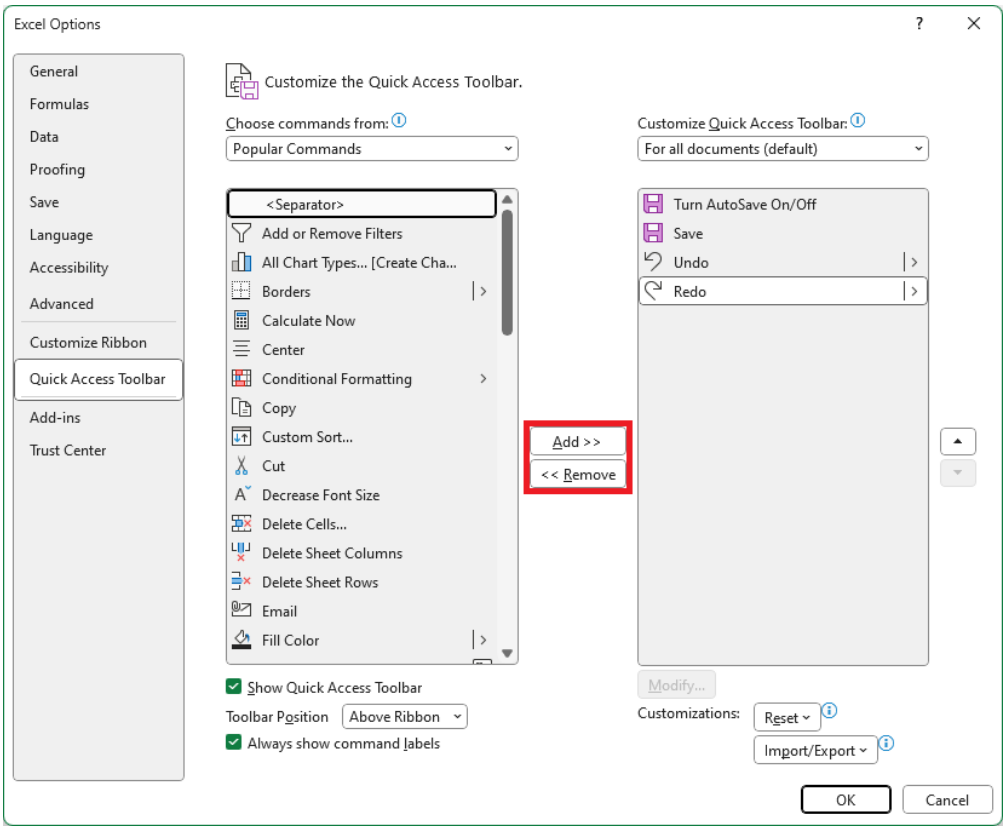
You may end up often using a set of characters that are not on a typical keyboard. For instance, you may use arrows, roman numerals, bullet points, etc. It would be inefficient if you had to navigate through a character map every time you want to use one of these. That is why you can set up an autocorrect function for your convenience. You can navigate to `File`→`Proofing`→`AutoCorrect Options`.



Also, you may end up in a position of being a frequent user of certain functions that do not have a default hotkey. In that case, we can create our own "hotkey" as well. Navigate to `Customize Quick Access Toolbar`→`More Commands` on the top of the window.



Then you should be able to pull up the following window. Find a function you would like to have easy access, and add it to the quick access toolbar. In this example, I am adding `Merge&Center`.



You will see that the `Merge&Center` key is now located in the top left corner of the window. Holding `alt` shows you which key to press to access the newly added function. Under this setup, we can access the `Merge&Center` key by pressing `alt` → `5`.