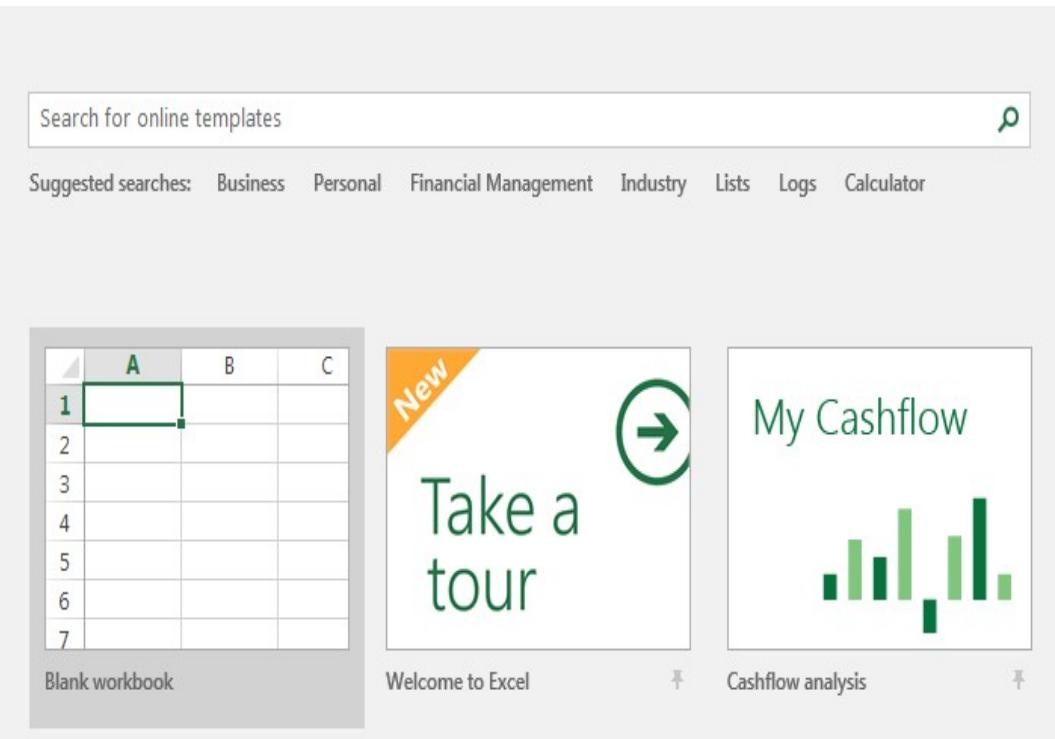
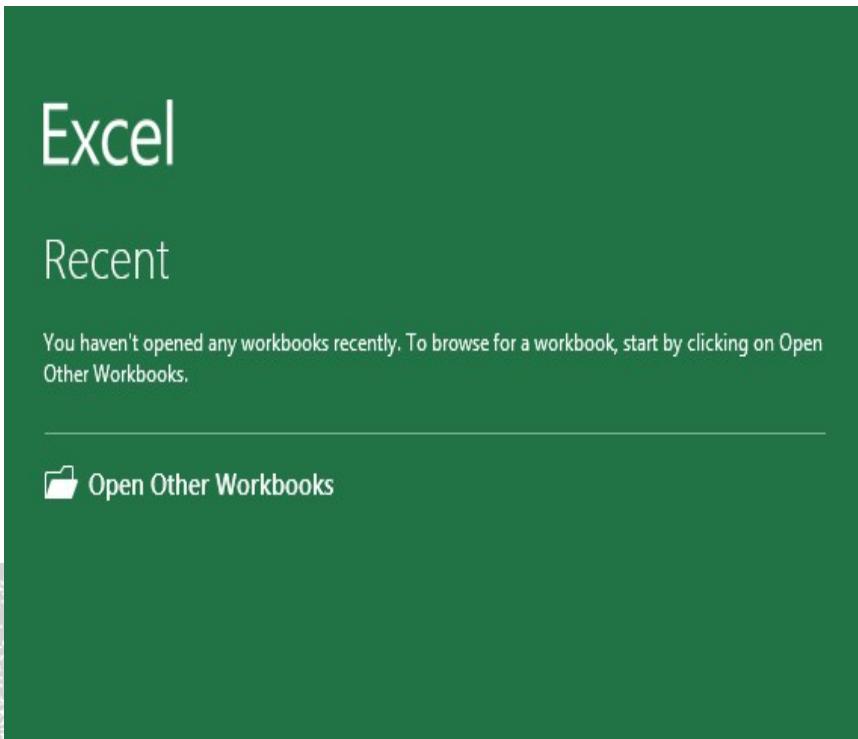


BASIC EXCEL

Marta Charron,
PhD, CFD

EXCEL WELCOME PAGE

2

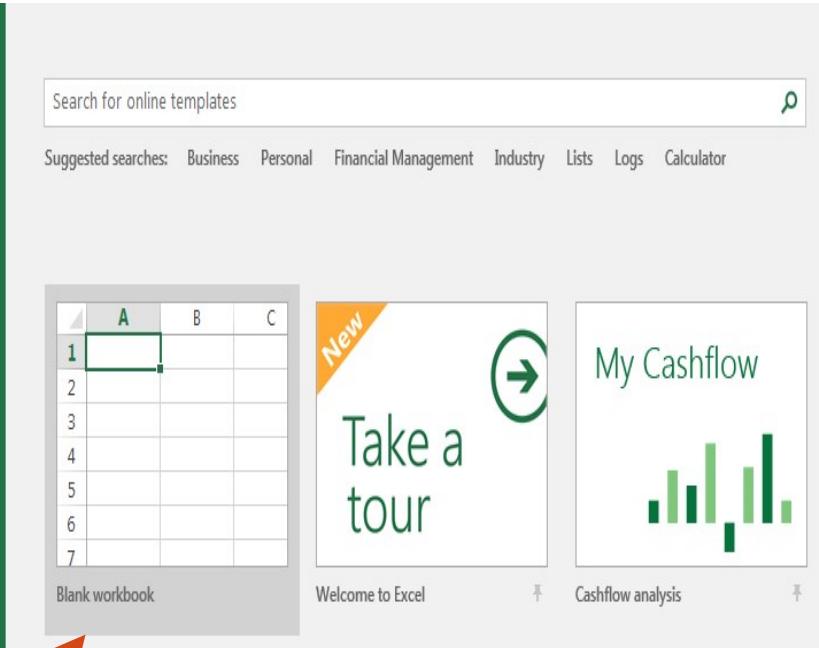


Excel

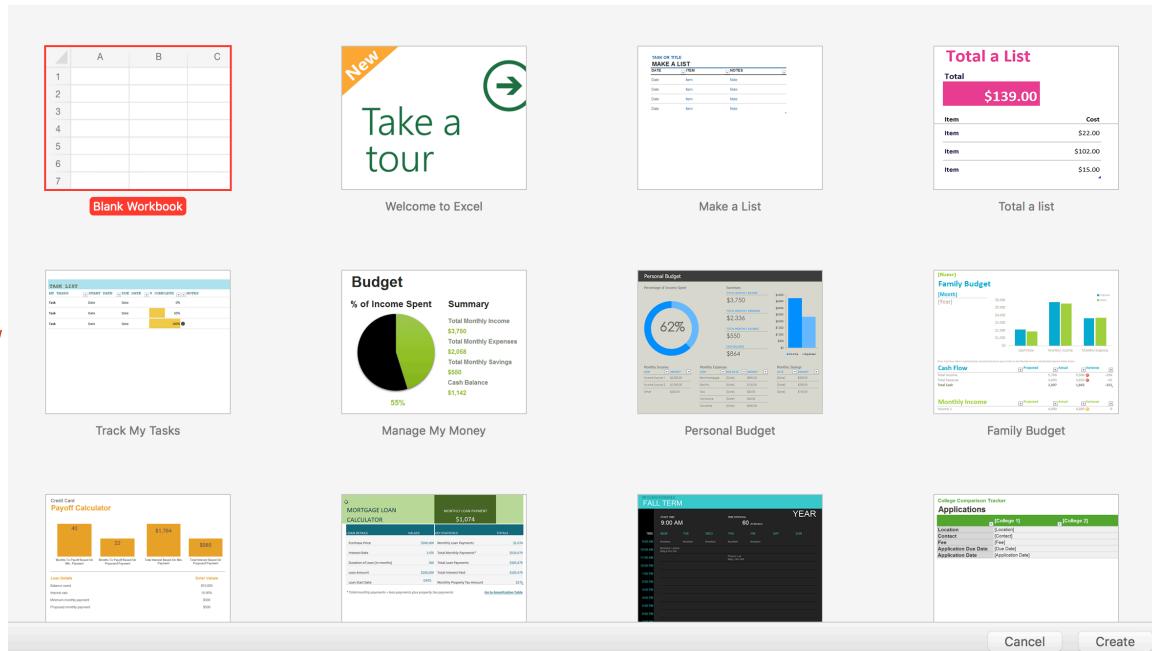
Recent

You haven't opened any workbooks recently. To browse for a workbook, start by clicking on Open Other Workbooks.

 Open Other Workbooks

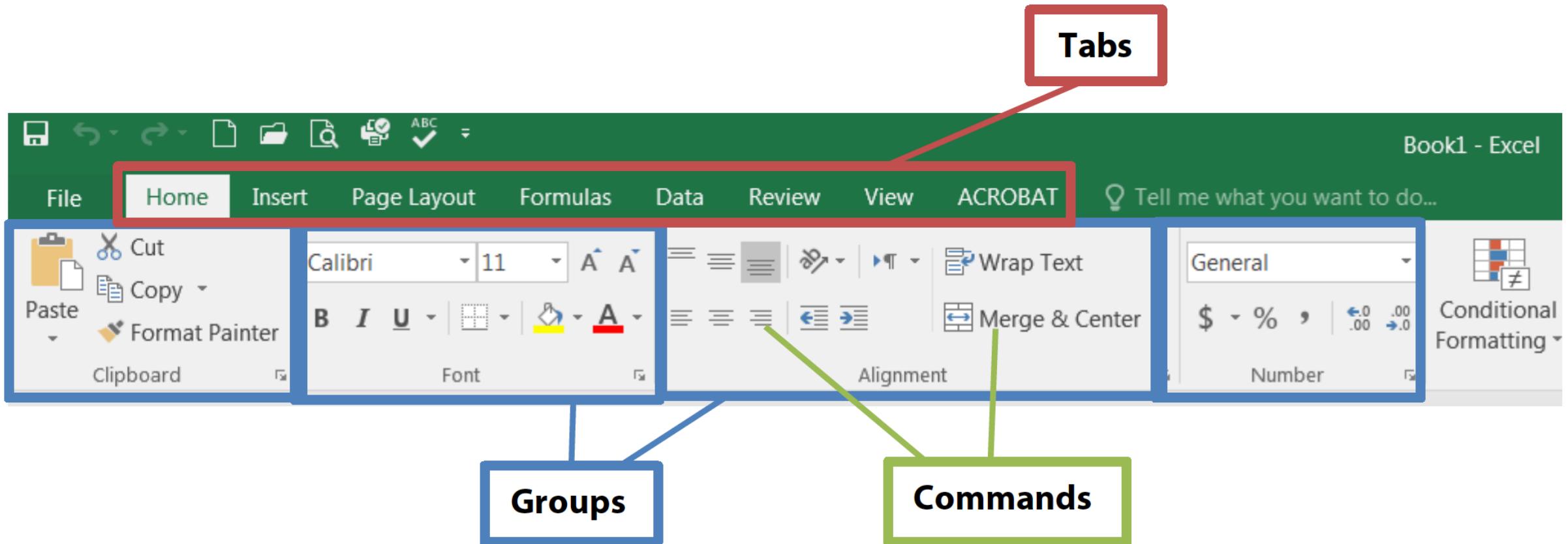


Select Blank Workbook or a Template

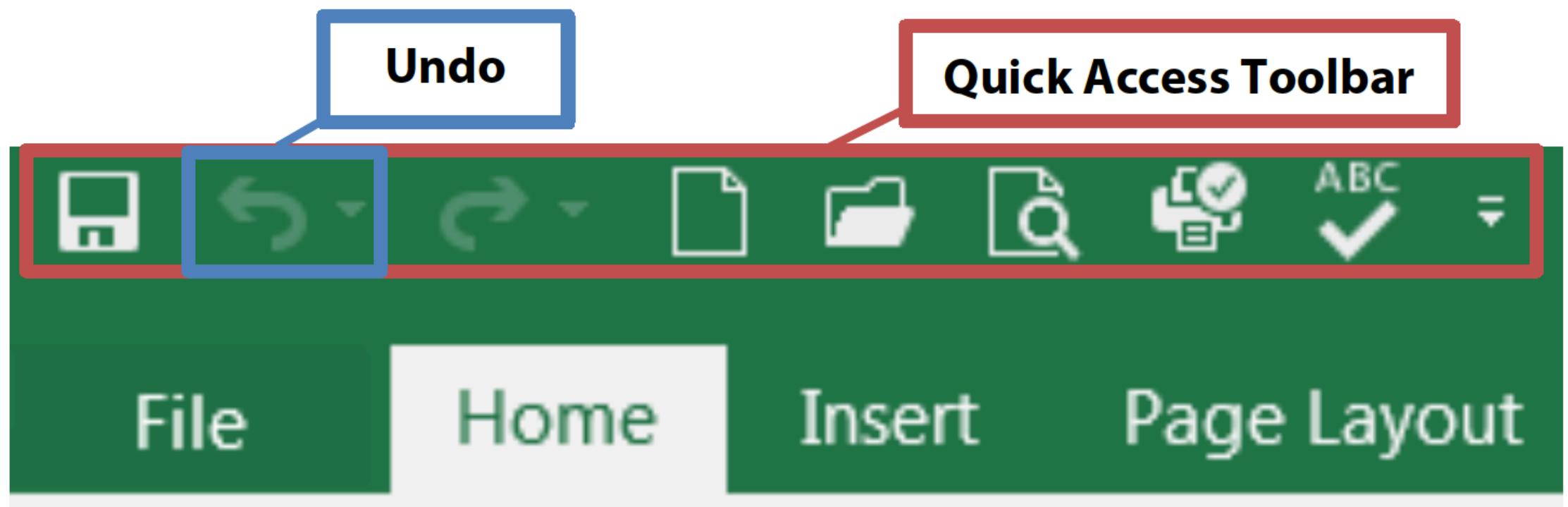


Blank Workbook

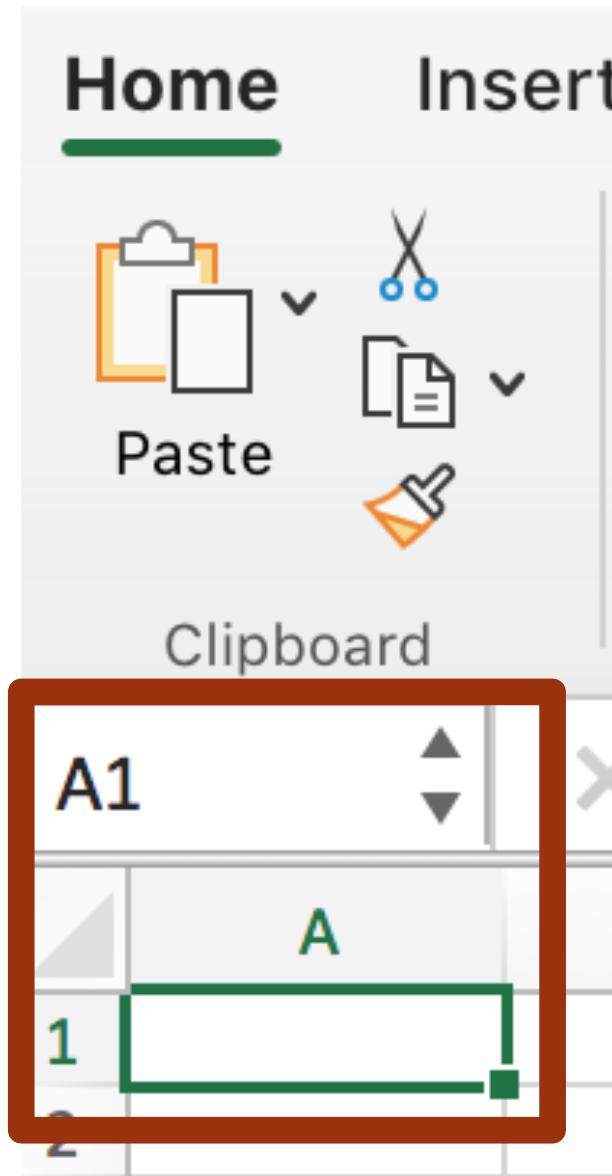
The screenshot shows a blank Microsoft Excel spreadsheet titled "Book1". The ribbon menu is visible at the top, showing tabs for Home, Insert, Draw, Page Layout, Formulas, Data, Review, and View. The "Home" tab is selected. The ribbon also includes AutoSave settings, a status bar indicating "OFF", and standard file navigation icons. The main workspace displays a grid of 28 rows (labeled 1 through 28) and 10 columns (labeled A through J). Cell A1 is currently selected and contains the value "1". The "Clipboard" group on the ribbon shows a "Paste" icon with a dropdown arrow, and the "Font" group shows "Calibri (Body)" font, size "12", and bold "B" and italic "I" styles. The "Number" group shows a "General" format with currency "\$", percentage "%", and date/time separators. The "Alignment" group includes options for horizontal, vertical, and wrap text alignment.



RIBBON



TOOL BARS



CELL BASICS

- Cells have references based on their location:
 - Letter for columns
 - Numbers for rows
 - Example **A1** --> Column A row 1

- Cell references can be:
 - Relative - cell references **move** when you copy them.
 - Absolute - cell references **do not move** when you copy them. They are noted by dollar sign \$ in front of cell reference. Example: **\$A\$1**

CELLS & THEIR FORMATS

The screenshot shows the Microsoft Excel ribbon with the 'Home' tab selected. The 'Number' section of the ribbon is highlighted with a red oval. The ribbon includes sections for Home, Insert, Draw, Page Layout, Formulas, Data, Review, and View. Below the ribbon is the Excel interface with the formula bar, a1 cell reference, and a grid of cells.

Cells accept text, numbers in different formats, dates, time etc.

By clicking in General you can see all the possible formats with examples.

The screenshot shows the Microsoft Excel ribbon at the top with tabs like Home, Insert, Page Layout, etc. A context menu is open over a cell, listing various number formats: General, Number, Currency, Accounting, Date, Time, Percentage, Fraction, Scientific, Text, Special, and Custom. The 'Date' option is selected and highlighted with a red box. To the right, the 'Format Cells' dialog box is displayed, specifically the 'Number' tab. The 'Category' dropdown also has 'Date' selected. Under the 'Type:' section, several date formats are listed, including *3/14/12, *Wednesday, March 14, 2012, 2012-03-14, 3/14, 3/14/12, 03/14/12, 14-Mar, and 14-Mar-12. The 'Language (Location):' dropdown is set to English (United States), and the 'Calendar type:' dropdown is set to Gregorian. A note at the bottom of the dialog box states: "Date formats display date and time serial numbers as date values. Date formats that begin with an asterisk (*) respond to changes in regional date and time settings that are specified for the operating system. Formats without an asterisk are not affected by operating system settings." At the bottom right of the dialog box are 'Cancel' and 'OK' buttons.

ABC General
123 No specific format

123 Number

Currency

Accounting

Short Date

Long Date

Time

Percentage

Fraction

Scientific

Text

Special

Custom

More Number Formats...

Format Cells

Number Alignment Font Border Fill Protection

Category: General

Type:

- *3/14/12
- *Wednesday, March 14, 2012
- 2012-03-14
- 3/14
- 3/14/12
- 03/14/12
- 14-Mar
- 14-Mar-12

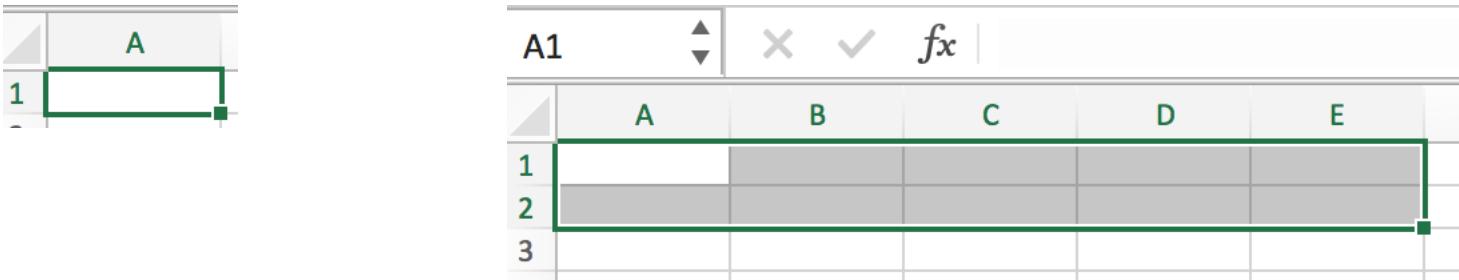
Language (Location): English (United States)

Calendar type: Gregorian

Date formats display date and time serial numbers as date values. Date formats that begin with an asterisk (*) respond to changes in regional date and time settings that are specified for the operating system. Formats without an asterisk are not affected by operating system settings.

Cancel OK

- Cell formatting can be done before or after data is entered.
- It can be applied to one specific cell or to a range of cells either in a row or column.



	A	B	C	D	E
1					
2					
3					

- Can be changed at any time.
- Text in a cell can also be formatted.
 - Font type, size, color, underline, strike out, super or subscript.

CELL FORMATTING

B16



fx

	A	B	C	D
1	Department Sections			
2	Courses Id	# of Section	# of Students	Prof Teaching
3	ADM	10	300	5
4	FINA	15	450	8
5	CONT	10	300	8
6	SICI	8	240	4
7	REHU	10	300	5
8				
9				

Enter the data as shown above.

Home Insert Draw Page Layout Formulas Data Review View Share Comments

Clipboard Calibri (Body) 12 A A General Conditional Formatting Insert Sort & Filter Ideas
Paste B I U Font Alignment Number Format as Table Delete Find & Select Ideas
Font Alignment Number Cell Styles Format Ideas
Clipboard Font Alignment Number Cell Styles Format Ideas
Font Alignment Number Cell Styles Format Ideas

A1 fx Department Sections

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Department Sections																		
2	Courses Id	# of Section	# of Students	Prof Teaching															
3	ADM	10	300	5															
4	FINA	15	450	8															
5	CONT	10	300	8															
6	SICI	8	240	4															
7	REHU	10	300	5															
8																			
9																			
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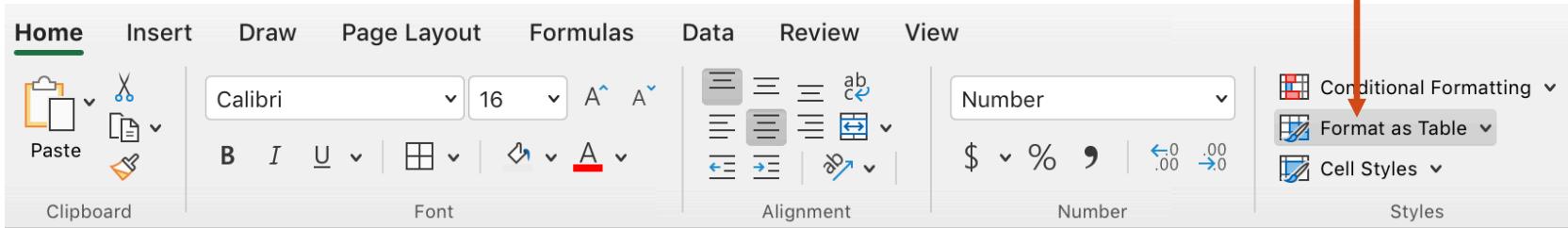
Sheet1 Sheet2 + Ready

Changing Cell Size & Formatting

To change the cell size:

1. Position the cursor between 2 cells and double click. or
2. Position the cursor between 2 cells and while holding the left mouse button drag the cell to the right.
3. Add dates, student number and other data and apply formats.

1. Select any cell within your table.
2. On the **Home** tab, click **Format as Table**.

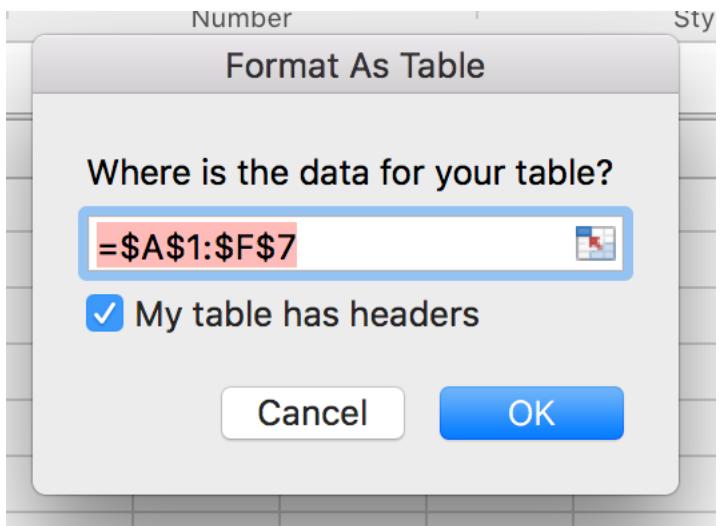


3. Select desired style.



ADDING STYLE TO A SHEET

4. Check range of table and click Ok.



5. Refine style if necessary.

The ribbon shows the 'Table' tab selected. The 'Table Style Options' dropdown is open, showing checkboxes for 'Header Row', 'Filter Button', and 'Banded Rows', all of which are checked. The 'Table Styles' gallery is visible on the right, with a specific style highlighted in green.

ADDING STYLE TO A SHEET

- All formulas must start with the equal sign **=**.
- Select the cell where you want to enter a formula.
- Write the **=** sign and enter formula.

	A	B	C
1	Department Sections		
2	Couses Id	# of Section	# of Students
3	ADM	10	300
4	FINA	15	450
5	CONT	10	300
6	SICI	8	240
7	REHU	10	300
8	Total	1 =B3+B4+B5+B6+B7	2 =SUM(C3:C7)

ENTERING BASIC FORMULAS IN EXCEL

AVERAGE

fx =

	A	B	C	D
1	Department Sections			
2	Courses Id	# of Section	# of Student:	Prof Teaching
3	ADM	10	300	5
4	FINA	15	450	8
5	CONT	10	300	8
6	SICI	8	240	4
7	REHU	10	300	5
8	Total	53	1590	=
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				

Sections Sheet4 Sheet1 (2)

Formula Builder

Search

Most Recently Used

- AVERAGE
- SUM
- IF
- HYPERLINK
- COUNT
- MAX
- SIN
- SUMIF
- PMT
- STDEV
- All
- ABS

Insert Function

fx AVERAGE

Returns the average (arithmetic mean) of its arguments, which can be numbers or names, arrays, or references that contain numbers.

Syntax

AVERAGE(number1,number2,...)

- Number1: number1,number2,... are 1 to 255

USING EXCEL FUNCTIONS

1. Click the *fx* symbol. The equal sign = will appear.
2. Double click on the selected function from the Formula Builder menu or click on Insert Function.
3. Check if selected range is correct. If not it can be modified directly in the function.
4. Click the or Enter.

AVERAGE =B3*\$E\$1

	A	B	C	D	E
1	Department Sections				0.1
2	Couses Id	# of Section	# of Students	Prof Teaching	
3	ADM	10	300	10	=B3*\$E\$1
4	FINA	15	450	15	
5	CONT	10	300	8	
6	SICI	8	240	10	
7	REHU	10	300	10	
8	Total	53	1590	10.6	

1. Enter formula.
2. Position cursor in the formula bar left of E1.
3. Press F4 function key. The \$ signs will appear in formula.

+

OTHER FORMULAS ABSOLUTE REFERENCE & COPY

E3 X ✓ fx | =B3*\$E\$1

	A	B	C	D	E
1	Department Sections				0.1
2	Couses Id	# of Section	# of Students	Prof Teaching	
3	ADM	10	300	10	=B3*\$E\$1
4	FINA	15	450	15	=B4*\$E\$1
5	CONT	10	300	8	=B5*\$E\$1
6	SICI	8	240	10	=B6*\$E\$1
7	REHU	10	300	10	=B7*\$E\$1
8	Total	=B3+B4+B5+B6+B7	=SUM(C3:C7)	=AVERAGE(D3:D7)	

1. To copy formula to all cells in the column position cursor in the bottom right corner of the cell with the formula until a + appears.
2. While holding the left mouse button, drag the + until the end of the data.

OTHER FORMULAS ABSOLUTE REFERENCE & COPY

Hierarchy of Operations

Type	Operator	Order Performed
Arithmetic operations are performed first, in order shown	() ^ * / % + -	1 st parentheses 2 nd exponentiation 3 rd : multiplication, division, modulus 4 th : addition, subtraction
Relational operations are performed second	= <> < <= > >=	All relational operators have equal precedence
Logical operations are performed last, in the order shown	NOT AND OR	1 st : NOT 2 nd : AND 3 rd : OR

OTHER FORMULAS

SUM



fx | =F3-C3/C3



WRONG

	A	B	C	D	E	F	G
1	Department Sections				0.1		
2	Couses Id	# of Section	# of Students (Sem1)	Prof Teaching		# of Students (Sem2)	% of Change
3	ADM	10	300	10	=B3*\$E\$1	250	=F3-C3/C3
4	FINA	15	450	15	=B4*\$E\$1	400	
5	CONT	10	300	8	=B5*\$E\$1	285	
6	SICI	8	240	10	=B6*\$E\$1	220	
7	REHU	10	300	10	=B7*\$E\$1	275	
8	Total	=B3+B4+B5+B6+B7	=SUM(C3:C7)	=AVERAGE(D3:D7)	=SUM(E3:E7)		

G3



fx | =(F3-C3)/C3



RIGHT

	A	B	C	D	E	F	G
1	Department Sections				0.1		
2	Couses Id	# of Section	# of Students (Sem1)	Prof Teaching		# of Students (Sem2)	% of Change
3	ADM	10	300	10	=B3*\$E\$1	250	=(F3-C3)/C3
4	FINA	15	450	15	=B4*\$E\$1	400	
5	CONT	10	300	8	=B5*\$E\$1	285	
6	SICI	8	240	10	=B6*\$E\$1	220	
7	REHU	10	300	10	=B7*\$E\$1	275	
8	Total	=B3+B4+B5+B6+B7	=SUM(C3:C7)	=AVERAGE(D3:D7)	=SUM(E3:E7)		

A1 ▲ X ✓ fx | Department Sections

	B	C	D	E	F	G
1	Name Box Department Sections			0.1		
2	Courses Id	# of Section	# of Students (Sem1)	Prof Teaching	# of Students (Sem2)	% of Change
3	ADM	10	300	10	=B3*\$E\$1	=F3-C3)/C3
4	FINA	15	450	15	=B4*\$E\$1	=F4-C4)/C4
5	CONT	10	300	8	=B5*\$E\$1	=F5-C5)/C5
6	SICI	8	240	10	=B6*\$E\$1	=F6-C6)/C6
7	REHU	10	300	10	=B7*\$E\$1	=F7-C7)/C7
8	Total	=B3+B4+B5+B6+B7	=SUM(C3:C7)	=AVERAGE(D3:D7)	=SUM(E3:E7)	

G

% of Change

-0.166666667

-0.111111111

-0.05

-0.083333333

-0.083333333

General

\$ % , .00

Number

G

% of Change

-16.67%

-11.11%

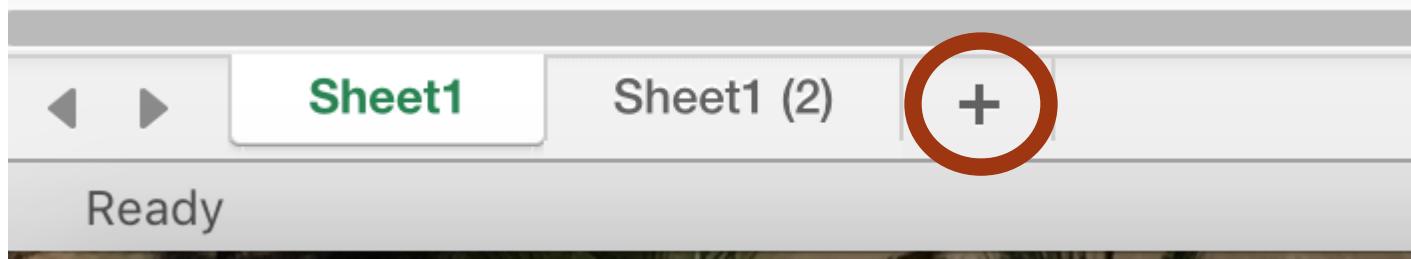
-5.00%

-8.33%

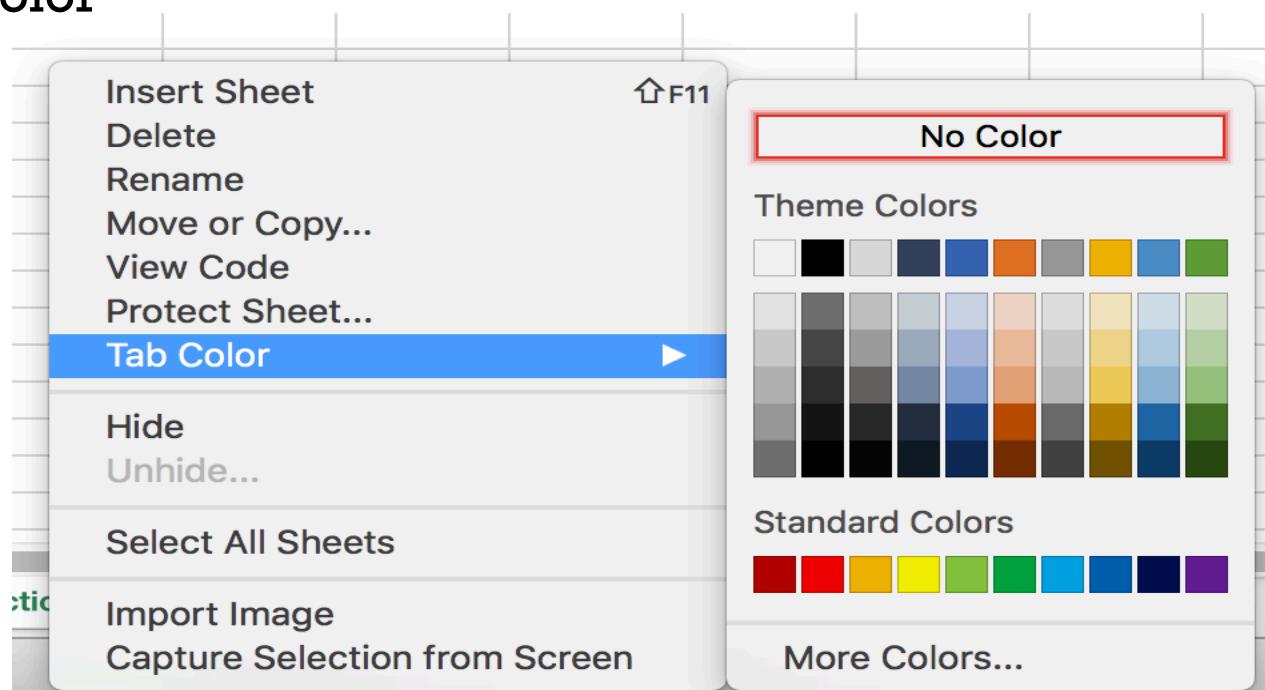
-8.33%

OTHER FORMULAS

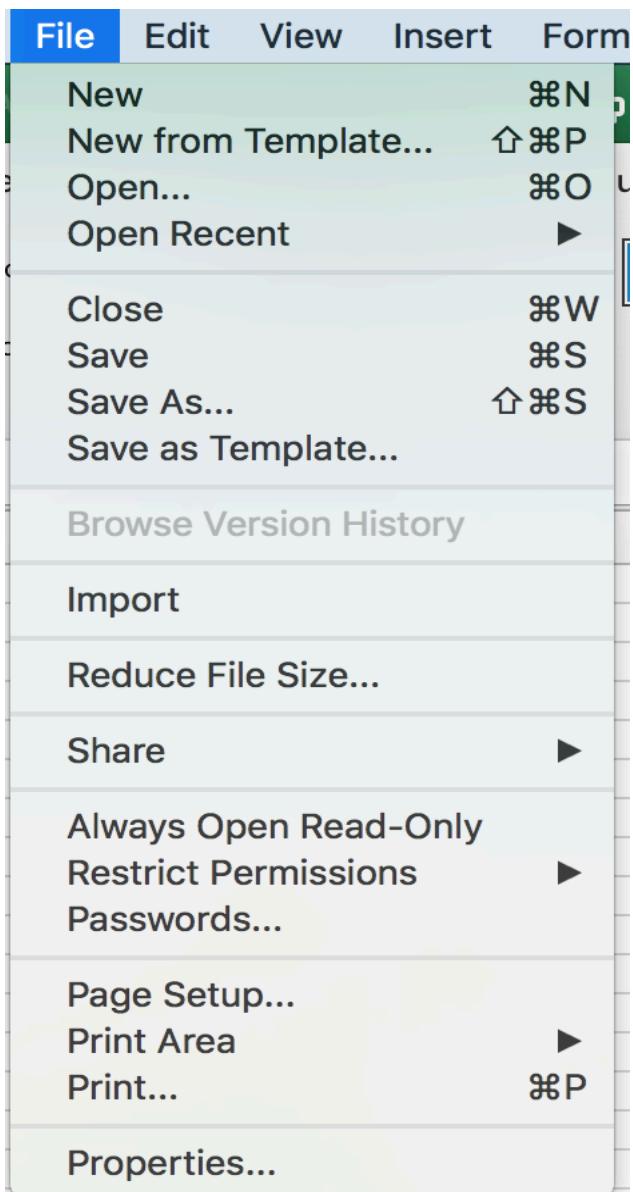
To add a new sheet click +



- Double click on Sheet1.
- Enter name of sheet and press return or click once again.
- To add color to the Tab, right click once and select Tab color



CREATING & NAMING SHEETS



SAVING & PRINTING

	A	B	C	D	E
1	STUDENT ENROLLMENT				
2	Section	Sem 2 17-18	Sem 1 17-18	Sem 2 16-17	Sem 1 16-17
3	3107	155	208	204	261
4	3106	183	182	214	207
5	4137	48	51	36	34
6	4125	44	68	52	53
7	4145	40	31	41	32
8	4020	31	32	27	29

- Compute totals and averages for each semester.
- Compute % of change between 17-18 semesters, 16-17 semesters, between first semesters of both years, and between second semesters of both years.
- Compute the maximum amount of students in each class.
- Format cells and table.

PRACTICE