CPSC 203 Tutorial

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Course Regulations

CPSC 203:
Course Assignments
· There will be no term project in the course.
· Three take home assignments will be given during the term. Assignment one will be on spreadsheets, whereas assignments two and three will be on databases.
· There will be no late submission for the assignments under any circumstances.
· Students can make the assignments on Office 2003 at home, but they have to make sure that it works properly on Office 2007 before submission, or else the TA will deduct marks.

Course Regulations

CPSC 203:

Lab Quizzes

· There will be four in-class quizzes during the course, where a quiz will be given after each of the four lab modules.

Course material link:

http://wiki.ucalgary.ca/page/Courses/Computer_Science/CPSC_203/CPSC_203_Template/Fall_2009_Lab_Manual

Introduction to Spreadsheet

The spreadsheet software we will be using for this course is Excel 2007 (for Microsoft Windows). There have been many interfaces changes to Excel 2007 from previous versions of Excel. The following is an outline of some of these changes to help you get started with Excel 2007:
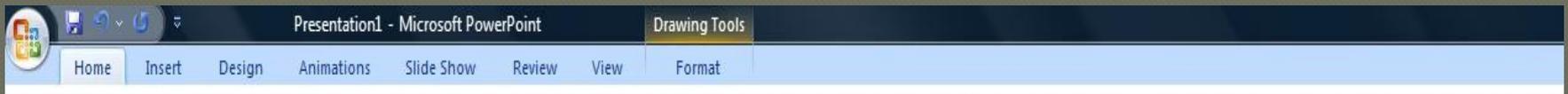
Introduction to Spreadsheet

Ribbon: the introduction of the "ribbon" is the main new interface change to Excel 2007. The ribbon consists of a main toolbar and contextual menus, represented with icons. The ribbon is located above the work area.
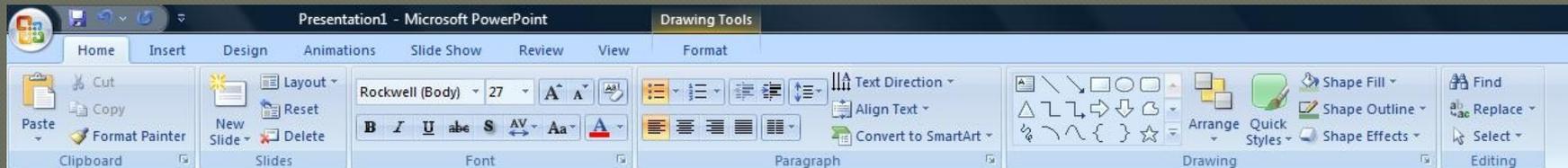
Introduction to Spreadsheet

Main Toolbar: the main toolbar consists of: home, insert, page layout, formulas, data, review, and view.

Contextual Menu: each item in the main toolbar has an associated contextual menu. When an item in the main toolbar is selected, the new contextual menu appears with its corresponding icons.

Introduction to Spreadsheet

Office Button: the office button gives access to performing tasks such as opening a file, saving a file, and printing.

Help: the help icon gives access to help and how-to information.

Type in some basic data

The following is a step-by-step guide to entering basic data into a spreadsheet in Microsoft Excel 2007 (for Windows).

Step 1: start Excel.
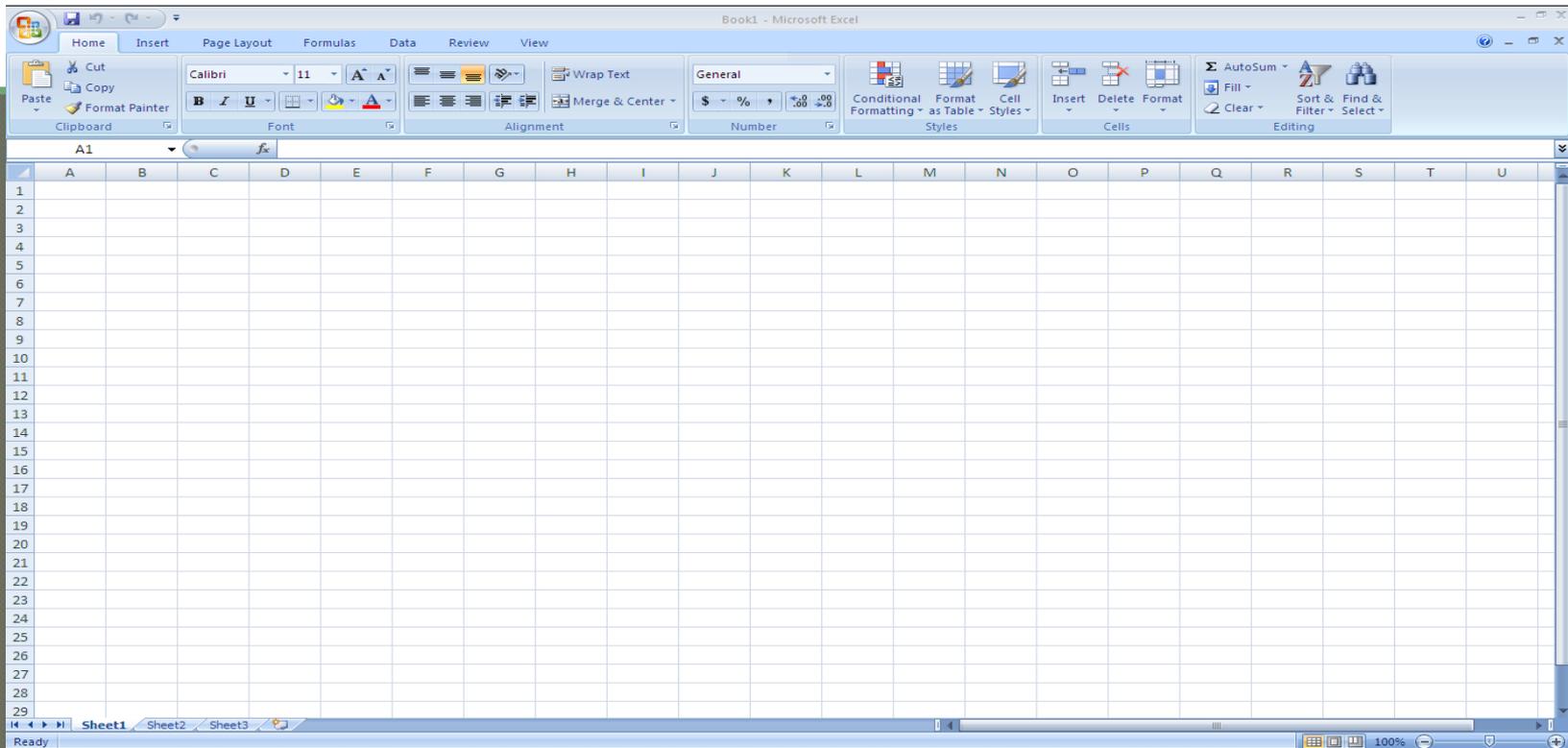
Type in some basic data

- Step 2: click in a cell, such as A 1
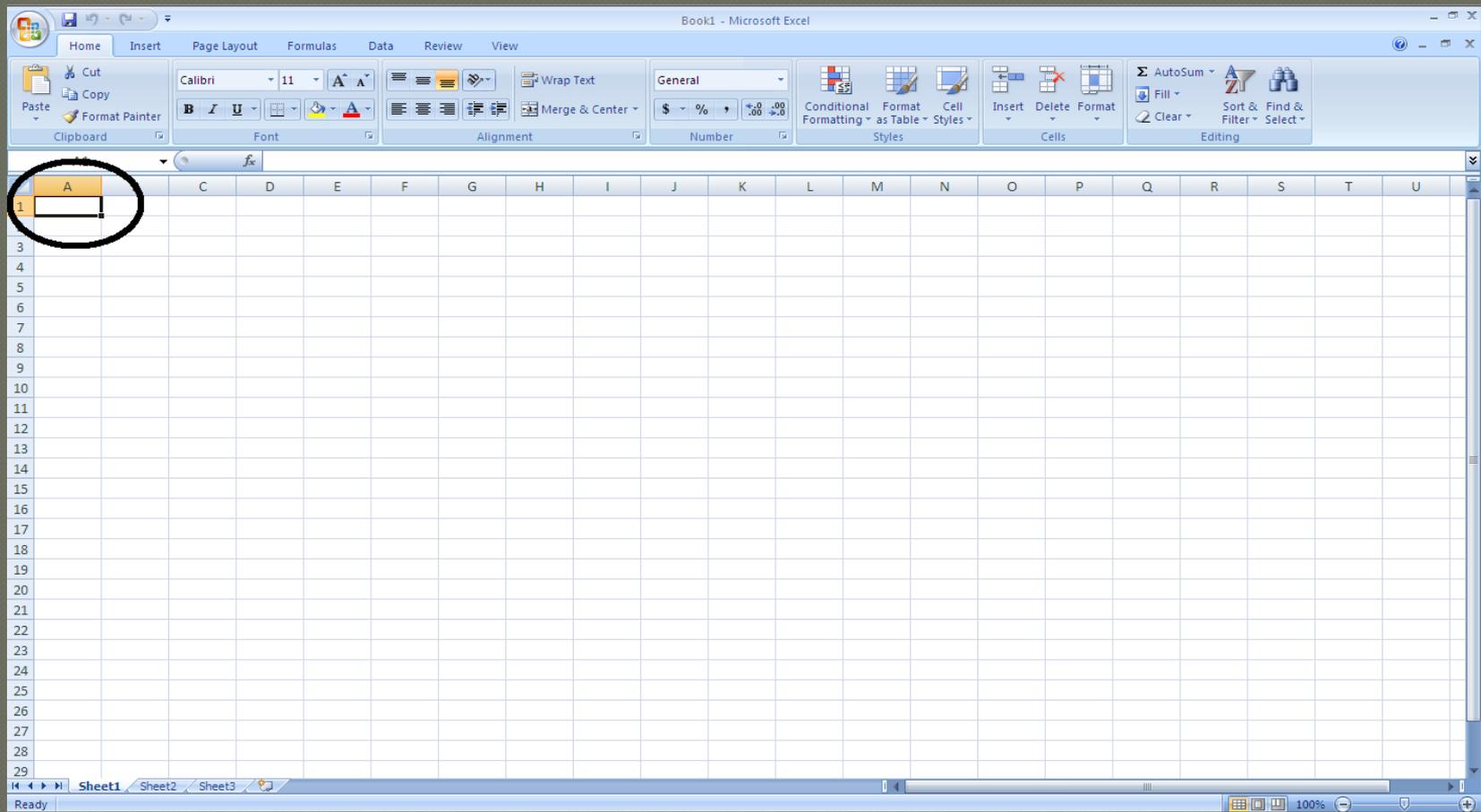
Type in some basic data

Step 3: use the keyboard to add a number or text to the cell (e.g. Sales). To complete the entry, press the 'Enter' key or use the mouse to click on another cell
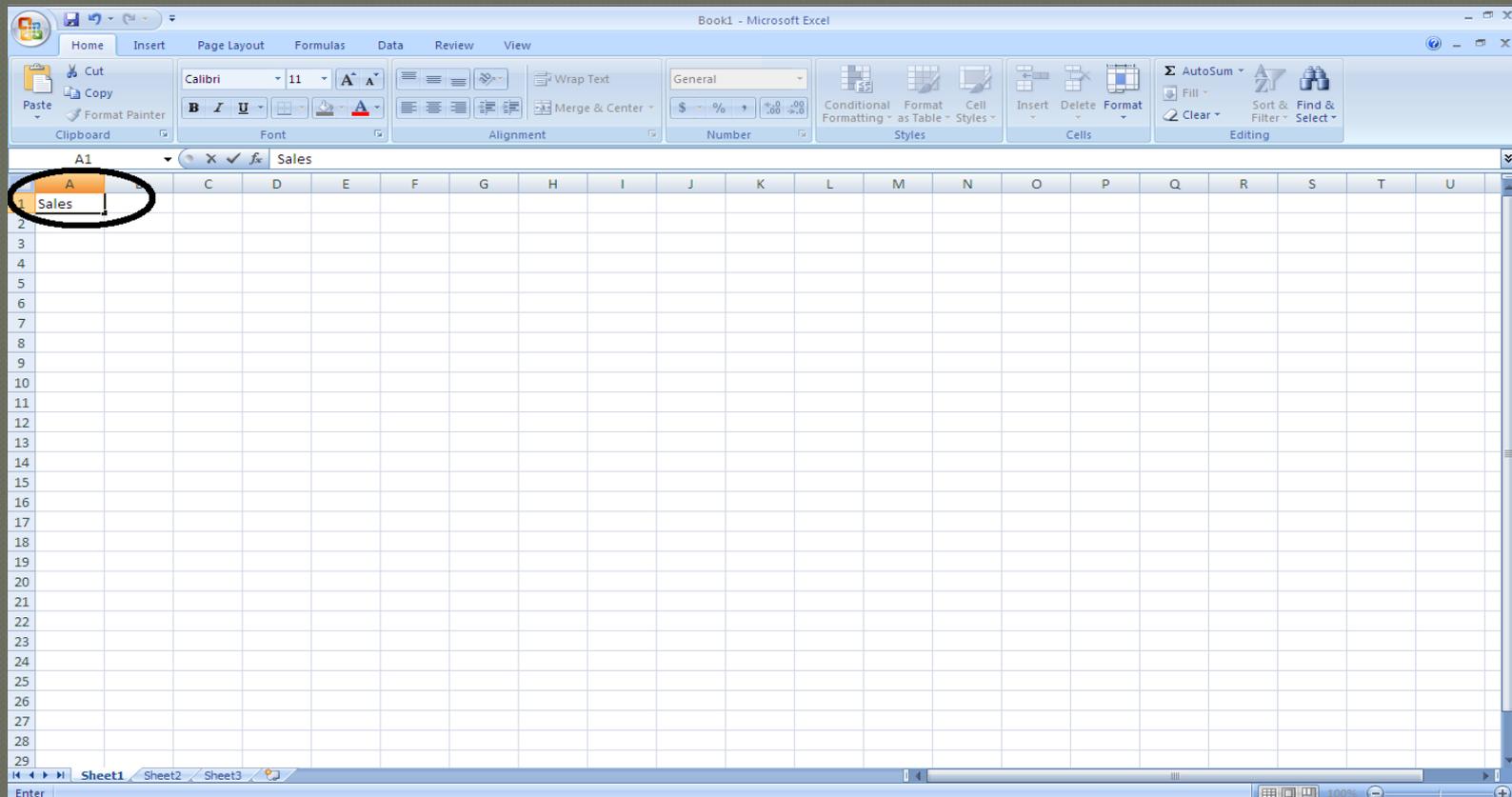
AutoFill a field(s)

- A few Notes about the AutoFill feature:
  - Can be used with both numbers and text
  - Can be applied to both rows and columns
  - The start of a sequence (numbers or text) must be given (either in a row or column). As few as two cells with numbers or text can be used.
  - The use of text sequences must correspond to those defined in Excel (e.g. list of months), or a custom text sequence can be specified.

AutoFill a field(s)

Example of using Autofill to complete the list of months in a row.

- Step 1: in cell A3 enter 'January', in cell B3 enter 'February', and in cell C3 enter 'March'.

AutoFill a field(s)

Step 2:highlight cells A3 to C3, by clicking-and-dragging over cells A3 to C3. A rectangular box will be shown to identify the selected cells

AutoFill a field(s)

Step 3:Place the cursor on the Fill Handle (located on the lower right corner of the last highlighted cell). The cursor should turn to a black cross

AutoFill a field(s)

AutoFill a field(s)

- Step 4: drag the cursor to L3.

AutoFill a field(s)

Step 5: Release the cursor. The remaining months should be automatically entered
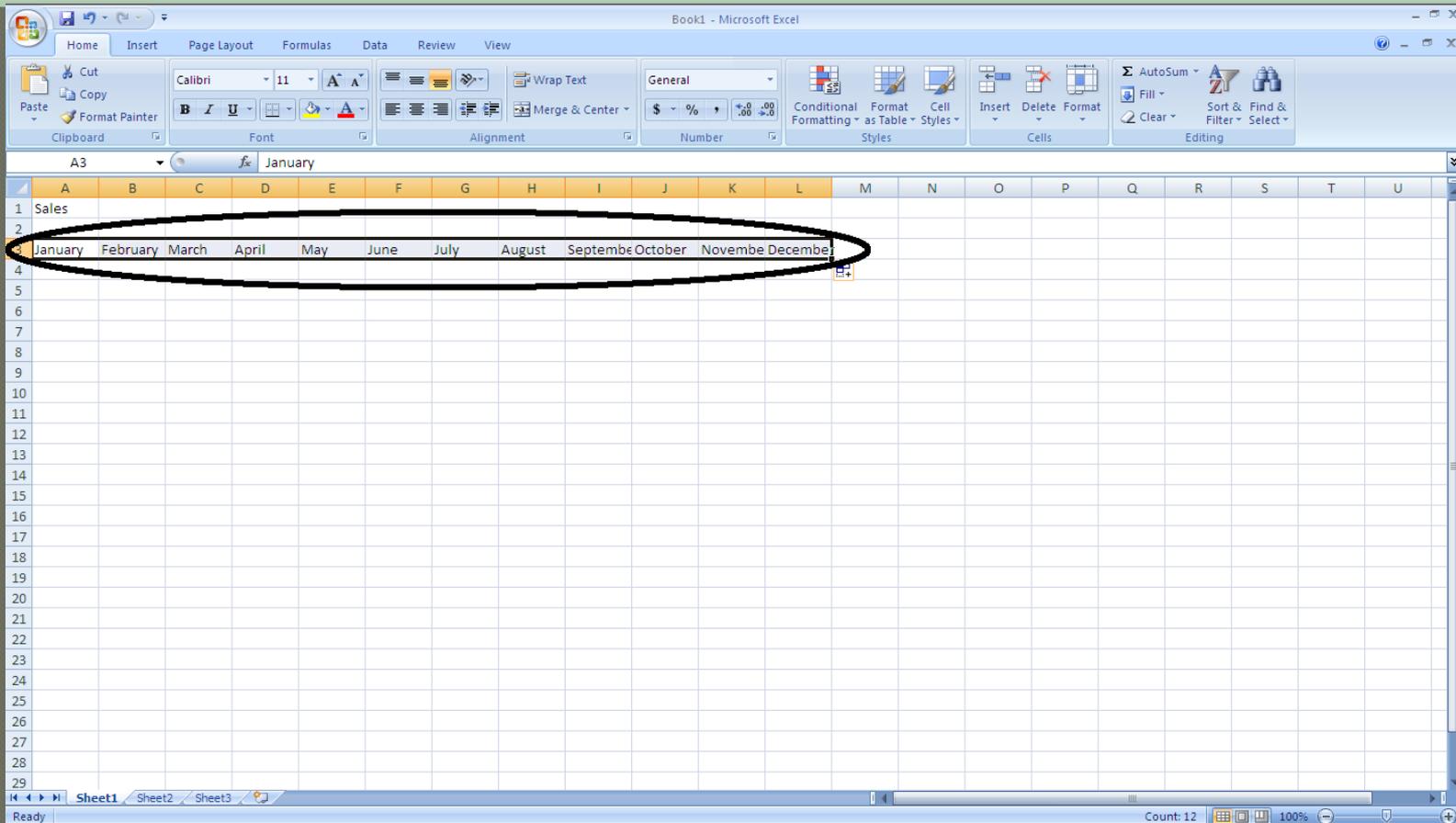
Set-up appropriate field formats (currency, numbers, text, etc.)

Formatting provides a mechanism to make the data in a spreadsheet more readable. Both text and numbers can be formatted. When a cell with the data you wish to format is selected, use either the ribbon ('Number' contextual menu as part of 'Home' in the main toolbar) or right-click using your mouse and select 'Format Cells' from the drop-down menu to open a new panel (select the 'Number' tab in the new panel).

Set-up appropriate field formats (currency, numbers, text, etc.)

screenshot of drop-down menu:
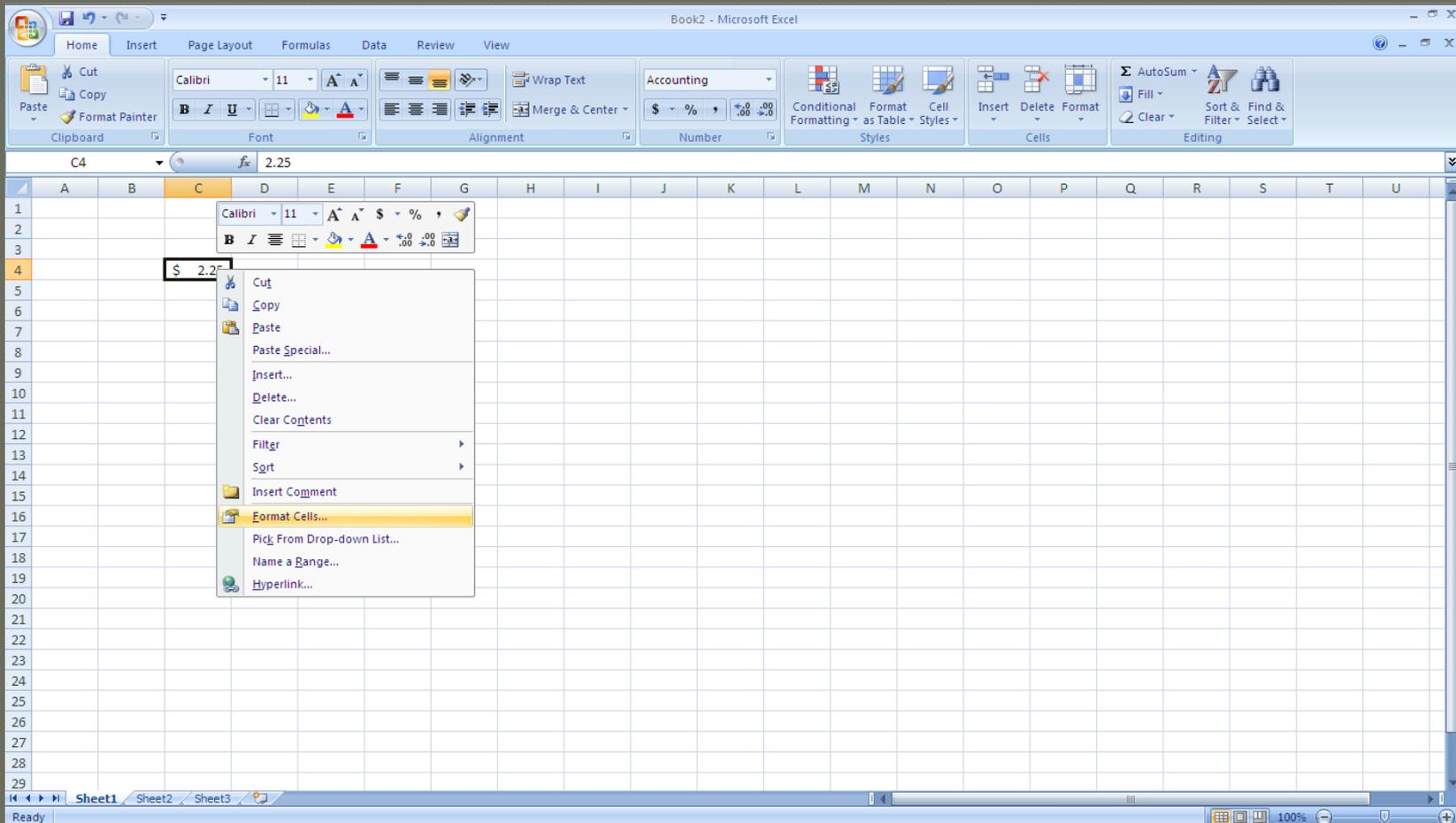
Set-up appropriate field formats (currency, numbers, text, etc.)

screenshot of formatting panel:

Calculate basic statistics

The following basic statistics will be covered:
- Count
- Min
- Max
- Average
- Median
- Mode
- Standard Deviation

Calculate basic statistics

Notes about specifying functions:
- Functions can be specified directly in cells (including the range of cells to be included in the calculation), or in the Function Toolbar.
- Always use alternative calculations to check for errors when using functions.

- The COUNT( ) function gives the number of cells that contain numbers. Its syntax is =COUNT(value1, value2, ...).

- The MIN( ) function returns the smallest value in a set of numbers. Its syntax is =MIN(number1, number2, ...).

Calculate basic statistics

- The MAX ( ) function returns the largest value in a set of numbers. Its syntax is =MAX (number1, number2, ...).

- The AVERAGE() function return the average, or arithmetic mean. Its syntax is =AVERAGE(number1, number2, ...).

- The MEDIAN() function returns the middle number in a set of numbers. Its syntax is =MEDIAN(number1, number2, ...).

- The MODE() function returns the most frequently occurring value of a set of numbers. Its syntax is =MODE(number1, number2, ...).

Calculate basic statistics

	A	B	C	D	E
1	Class Gardes				
2	3	Average	2.47		=AVERAGE(A2:A16)
3	0	Median	3.0		=MEDIAN(A2:A16)
4	4	Mode	4		=MODE(A2:A16)
5	4				
6	4	Maximum Grade	4		=MAX(A2:A16)
7	2	Minimum Grade	0		=MIN(A2:A16)
8	4				
9	1	Number of Students	15		=COUNT(A2:A16)
10	4				
11	0				
12	3				
13	3				
14	1				
15	1				
16	3				

Calculate basic statistics

The STDEV( ) function returns the standard deviation to measure of the dispersion of a set of values. Its syntax is =STDEV(number1, number2, ...).

$$\sigma = \sqrt{\frac{1}{N} \sum_{i=1}^{N} (x_i - \mu)^2},$$

Calculate basic statistics