Excel is a spreadsheet (all originally developed for bookkeeping and accounting). It is very useful for any mathematical or tabular operations. It allows you to make quick changes in input and see how the results are impacted.

Let's start off the same way we did with Word by looking at the initial screen. Many of the buttons look very similar to what we had with Word and will perform the same functions.

The toolbars at the top are the standard toolbar and the formatting toolbar.

```
Std
New          Auto Sum
Open         Paste function
Save         2-sort
Print        Chart
Print Preview-different Map
Spelling     Drawing
Cut          Zoom
Copy         Office Assistant
Paste
Format Painter
Undo
Redo
2-hyperlink

Formatting
Font          Decrease}   indent
Size          Increase }   
B             Borders
I             Fill
U             Font Color

3-alignments   Merge & Center
Currency }     styles
% }     }

Increase }   decimal
Decrease}
```

Below the 2 toolbars, we have the name/equation bar:

```
name box          edit formula          formula bar
(cell address)          button
create or edit cell formula
```

At the bottom are the sheet designators – think of a book with many pages. At the bottom is the status bar with the mode indicator (Ready) and the NUM indicator.
The workspace in Excel is divided into numbered rows and lettered columns. An intersection of a row and column defines a cell such as C3.

Moving Around the Spreadsheet
Either with mouse or keyboard. Move cursor to point and click to activate the cell or can use keys. Note how the Row/Column indicator is bolded and the cell appears in the name box.

Scrolling

- **CNTRL HOME** – top of spreadsheet
- **HOME** – beginning of row
- **PAGE DOWN** – moves down 1 page
- **ALT PAGE DOWN** – right one full window
- **ALT PAGE UP** – left one full window
- **END →** – moves to last used cell in row
- **END ↓** – last used cell in column

Entering Data
In a cell, you can enter text, numbers or formulas
<illustrate text, numbers>
Note status changes to enter

As soon as you started to type, a new set of buttons comes up
cancel enter formula edit

When done typing, click ▾ or press enter. To cancel press X. To delete an existing entry – press delete when over cell.

Editing an Entry
To correct an entry in a cell, double click on it. STATUS bar shows EDIT and mouse pointer changes to an I beam.

- **HOME** – beginning } of entry
- **END** – end }

One of the important features in Excel is the ability to copy, move and work with blocks of data or formulas.

Copying Data (Cell contents)
Can move by cutting them and pasting them in a new location. Can be copied and pasted also, using icons on std toolbar.

In order to copy/move data, we must select it. When you are on a cell and press copy, a moving border indicates the source has been copied.

Cancel moving border by pressing ESC. Moving border indicates contents can be pasted again.
We can also move/copy a block of data called a range. Drag mouse from one corner to another.

A specialized way to copy is to FILL – only works with adjacent cells.

Select entire range including master cell

EDIT
FILL
RIGHT
CNTRL R right } filling
CNTRL D down)

A shortcut for the fill command is to grab the fill handle (black box in lower right corner). Cursor changes to + (on source range) then drag mouse to extend

Formulas
For maximum utilization – formulas.
- entry that performs an operation
- formula always begins with equal (=) sign which defines it as a numeric entry
  - + / * (exponent)
  - other complex operations – use ( )

Page 16 – temperature conversion
Table Exercise 1

Filling a Series of Numbers
Note in Exercise 1, the values of °F are in increments of 50. Rather than type these numbers individually, we can have the program put them in.

Place first number i.e. 50 in cell A4
2nd number 100 in cell below

Drag fill handle over range to be filled.
- Increasing values
- Decreasing values

Note the little marker to the side which tells you what the value is in the cell you are over.

You can specify the type of series if not obvious:

<table>
<thead>
<tr>
<th>Jan 96</th>
<th>Jan 96</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 96</td>
<td>Jan 97</td>
</tr>
<tr>
<td>Mar 96</td>
<td>Jan 98</td>
</tr>
</tbody>
</table>

Hold down the right mouse button when going over range – upon release a list of series will appear – pick by year.

Back to Formulas
Now we have our °F formula in, how do we have the program calculate the °C? The formula to convert °F to °C is:

\[
C = \frac{5}{9} (F-32)
\]
In Excel, all formulas begin with an = (equal) sign

\[ = \frac{5}{9} \times (B4-32) \]

Note: Use ( ) to group things relative cell reference

50 10
100 37.7778 using = on bar

Let's keep everything in whole numbers – so hit the decrease decimal button until we have 38 instead of 37.7778.

We would not want to type the formula everytime – so let's copy it. Remember to hit escape ESC if you want to remove the moving outline box on the original formula copied.

What if we do not want the cell address to change? This would be called an absolute cell reference – place a $ sign in front of cell reference parts.

Format for no decimal placed

<table>
<thead>
<tr>
<th>FORMAT</th>
<th>CELL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>Number (also alignment etc.)</td>
</tr>
</tbody>
</table>

Formula Editing (continuation of Editing)

Double click on cell with formula or press F2. Formula components are color coded to correspond to colors borders in spreadsheet – Range Finder feature

- Quick review of saving – similar to Word opening – similar to Word

Printing – Print Preview

PRINT PREVIEW - if not good
SETUP
FIT to
Or change size till fits

Cell Ranges

Cell ranges are groups of cells in a rectangular form. Each cell range has a beginning and ending address. Top LH corner is beginning and lower Rh corner is ending address.

To specify a range, enter the two cell addresses separated by a : (colon).
You can also specify a range by highlighting.
- draw mouse with left button down over range.

We will see what we can do with cell ranges a little later.
A name can be given to a range of numbers or cells in a worksheet. For example, a row of temp could be called temp. Then rather than refer to A1:A96 or whater, we would just say temp.

To create a name -
- highlight the cells in the range
- click in the name box – the cell address will highlight
- type in a name
- press enter

To create cell names -
- LABEL 1  LABEL 2  INSERT
  VALUE 1  VALUE 2  NAME
  CREATE - picks up name

  INSERT
  NAME
  PASTE - lets you check names

Just use names in formulas – absolute addresses.

Data Entry Using Auto Complete
AutoComplete second guesses what you are about to type by reviewing your past entries in that column.

< illustrate with names>
BRADLEY
BRANDON (just type in)
BRADLEY

Homework 3: Exercise 10 pg 28:29, Fig 2.12 (25 points) due 3/6/01
Homework 4: Problem 5, page 34 (50 points) due 3/6/01