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LECTURE 02: UNDERSTANDING EXCEL I

I. Basics of Excel
   a. If you want a video to learn the basics of Excel, this video can help you get started.
   b. Microsoft Excel is a spreadsheet program. Rather than a blank page for word processing, a new file is a bunch of blank cells.
      i. These notes use the ***2019*** version of Excel. There may be minor differences between what's here and you see, depending on the version you use.
   c. On the left are row numbers (1, 2, 3, etc); on the top are column letters (A, B, C, etc). Any cell is a combination of columns and letters, e.g. D8 or A1.
   d. At the bottom are sheet numbers (Sheet1, Sheet2, etc). Each of these sheets is a blank spreadsheet, allowing multiple kinds of information in the same file. You can also reference in one sheet data in a different sheet.
      i. Double-clicking the sheet tab highlights the sheet name, allowing you to change it.
      ii. Clicking the icon on the far right (with the orange star) makes a new sheet.

II. Clicking cells
   a. ***Clicking*** a cell highlights it; you can start typing and it will replace whatever was there with what you're typing.
   b. ***Double-clicking*** it creates a cursor icon, allowing you to edit what's in a cell without replacing the whole thing.
   c. Clicking and holding a cell allows you to highlight multiple cells as you move the mouse. This is useful for copying and pasting sections of a worksheet.
      i. You can also highlight whole rows or columns by clicking on the row number or column letter, as appropriate.
      ii. And you can highlight the whole sheet by clicking in the square in the upper-left hand corner of the sheet (where the column and row name panels intersect).

III. Cell Displays
   a. The Number box in the Home tab allows you to change how a cell is displayed.

b. The top bar gives you all the options for this Excel has. Some notable ones:
    i. *Number*. Adds two decimal places.
    ii. *Currency*. Adds two decimals places, a comma separator, and a dollar sign ($). Has options for special display of negative numbers.
    iii. *Accounting*. Adds two decimal places, a comma separator, a left-aligned dollar sign ($), and expresses all negative numbers in a parenthesis.
    iv. *Percentage*. Treats each value as a percent, adding two decimal places and a percent sign (%). Since percents are typically between 0 and 1, the values are multiplied by 100; 5 becomes 500.00%
c. The left three buttons are:
    i. *$*. Change to accounting style with a drop menu to change the currency symbol.
    ii. *%*. Change to percent style.
    iii. ,. Add comma style to your numbers and changes cell to Accounting (though it doesn't add the currency sign).
d. On the right is a pair of buttons to add or remove decimal places.

IV. The Equal Sign

a. After selecting a cell, you can press the equal sign. The cell will now display the result of an equation you input, rather than what you type. This has two big uses:
    i. Rather than a number, you can use a particular cell by clicking it. This allows you to construct an equation and then easily change the values to see the result of the equation. For example, putting in A1 "=B1*C1" means you can put in any numbers in B1 and C1 and A1 will display the mathematical result.
    ii. Excel has numerous equations built into it, some of which we will discuss in this class. After pressing "=", you can keep typing a particular word and it will display the code for the equation you want. Type the appropriate values or cell references, separated with commas, and it will tell you the answer.
b. When you've referenced another cell and you've copied and pasted the cell (selecting it with single click), Excel will update your cell references relative to the new location.
    i. Suppose you have "=B1*C1" in cell A1. If you copy the whole cell and paste it into A2, A2 will read "=B2*C2". If you copy it into E5, E5 will read "=F5*G5".

ii. Note that if you cut—rather than copy—and paste, Excel will keep the old reference.
iii. If you add or delete columns and rows, Excel will update all cell references.

c. =SUM is a useful function. It adds the value of all the cells selected. Like all functions, it has parentheses at the end; this is where the cell references go.
    i. In A1 type "=SUM(A2:A6)". You can also type "=SUM(" and then click A2 and drag down the mouse to A6. The "A2:A6" formatting will appear automatically. You'll see a blue box appear around those cells. Press ENTER to complete the command.
    ii. Type numbers in cells A2 to A6; the number at the top will automatically add whatever you typed in. It will update as you change it.