

LESSON 4: Due in Two Weeks on Oct 21 since Oct 14 is Columbus Day

Vocabulary for Lesson 4, Oct 7-14: =IF command, \$ symbol, absolute reference, alphanumeric data, CAPTCHA acronym, numeric data, relative reference, Rule of 72

Hello everyone (Barbara, Bob, Connor, Jo, Lisa, Terri and Wynnette)



We begin with a request that you complete the SURVEY of the other 6 people. I have given you SHORT and EASY URLs. Thanks much. This will allow the other 6 people to get some meaningful data and will allow you to see the work of your colleagues in this course.

Surveys?

Barbara: tinyurl.com/barbarasurvey33

Bob: tinyurl.com/bobsurvey33

Connor: tinyurl.com/booksurveyquiz

Jo: tinyurl.com/josurvey33

Lisa: tinyurl.com/lisasurvey33

Terri: tinyurl.com/terrisurvey33

Wynnette: tinyurl.com/integersurvey33

How to make a TINYURL?

Here is an 11 minute video. Some of you know this already, others do not. You will find this skill and trick invaluable for the rest of your computer life.

<http://youtu.be/jY1ef22RaOA>

The \$ Symbol

Let us go back to Google Docs spreadsheet and learn about **the \$ symbol** in the context of the bank interest program. Let us say that my boss wants to contemplate ANY percentage and we don't want all of those columns that you made last week. Can we have just one column and change the percentage in one cell from 1.04 to 1.05 to 1.12 and so on?



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Yes, we can and I will teach you how to do so in this 8 minute video called Lesson 4 Dollar Symbol GD course -- <http://youtu.be/nuGMrX0yddM>

By the way, the RULE OF 72 which I have mentioned to some of you in our phone calls or skypes says that if X and Y multiply to be 72, then at X% it will take Y years to double. So at 8% increase, it takes 9 years and at 12% it takes 6 years.

To reinforce the video lesson, please look at this formula that contains the mysterious \$ symbol known and understood by a small percentage of people!

	A	B	C
1		Percent Increase	1.08
2			
3	2000	\$100.00	
4	2001	=B3*\$C\$1	
5	2002	\$116.64	
6	2003	\$125.97	
7	2004	\$136.05	
8	2005	\$146.93	
9	2006	\$158.69	

The formula in B4 looks like `=B3*C1` but instead it is `=B3*C1` and as you will hear in the video, the \$ symbols wrapped around the letter C are declaring that the cell C1 is a CONSTANT not to be changed when you fill down with the magic spot. For over 20 years, I have used the bad joke that "Bill Gates declared nothing to be more sacred than money and that is why he chose the \$ symbol."



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Here is what most people would do in setting up this problem

	A	B	C
1		Percent Increase	1.08
2			
3	2000	\$100.00	
4	2001	=B3*C1	
5	2002	\$0.00	
6	2003	\$0.00	
7	2004	\$0.00	
8	2005	\$0.00	

and even though you get the right answer for B4, you mess up everything below when you fill down.

Finally, I want point out that you can get away with

	A	B	C
1		Percent Increase	1.08
2			
3	2000	\$100.00	
4	2001	=B3*C\$1	
5	2002	\$116.64	
6	2003	\$125.97	
7	2004	\$136.05	
8	2005	\$146.93	

since the \$ symbol affects what it is in front of (in this case the "1"). However, until you have done 10 or 20 examples, you are better off using the \$ symbol before and after the letter. The formula `=B3*C$1` technically means that column "C" can be altered when you fill right but that row "1" is to be considered sacred when you fill down. Since in this example, we just fill down, this formula works with just one dollar symbol.

By the way, when you use a command such as `=B3*C3` that is called "relative reference" since when you fill down or fill right, the variables are changed relative to where you started. In contract, in using `=B3*C3`, we would call C3 and absolute reference since all formulas based on this one would remain referencing C3.



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Here is the finished product as you will see on the video

	A	B	C	D	E	F	G
1		Percent Increase	1.08			The formula in B4 looks like =B3*\$C\$1	
2							
3	2000	\$100.00		2021	\$503.38		
4	2001	\$108.00		2022	\$543.65		
5	2002	\$116.64		2023	\$587.15		
6	2003	\$125.97		2024	\$634.12		
7	2004	\$136.05		2025	\$684.85		
8	2005	\$146.93		2026	\$739.64		
9	2006	\$158.69		2027	\$798.81		
10	2007	\$171.38		2028	\$862.71		
11	2008	\$185.09		2029	\$931.73		
12	2009	\$199.90		2030	\$1,006.27		
13	2010	\$215.89		2031	\$1,086.77		
14	2011	\$233.16		2032	\$1,173.71		
15	2012	\$251.82		2033	\$1,267.60		
16	2013	\$271.96		2034	\$1,369.01		
17	2014	\$293.72		2035	\$1,478.53		
18	2015	\$317.22		2036	\$1,596.82		
19	2016	\$342.59		2037	\$1,724.56		
20	2017	\$370.00		2038	\$1,862.53		
21	2018	\$399.60		2039	\$2,011.53		
22	2019	\$431.57		2040	\$2,172.45		
23	2020	\$466.10		2041	\$2,346.25		

The rule of 72 says that to double money in the bank, you multiply the # years times the percentage and that equals 72 (approximately).

Hope you understand that this example is a complicated one.

Next command: The IF command

This lets you decide if something is true, whether numbers or words.

In the homework, you will see two spreadsheet problems that require the use of the \$ symbol to solve.

HW 4.1 Required

Larry, Kevin, and Robert are 3 basketball players who make \$33,000, \$44,000 and \$32,000 respectively. The owner of the Boston Celtics wants to give them a percentage increase (the same for all 3) but has not decided what percent yet. So you need to create a GD spreadsheet that lets the owner type in 1.03 or 1.04 or 1.05 into one special cell and the computer then shows their salaries.

Next, let us learn to use the IF statement in this 3 minute video titled Lesson 4 IF Command GD course -- <http://youtu.be/9IUxNCJ4VxM>

Note that the IF formula has 3 things inside the parentheses separated by two commas. These 3 things are called "parameters." The first parameter is something that is either true or false. If the first parameter is true, then the second parameter is

inserted into the cell. Otherwise the third parameter is inserted. That is why you see "correct" or "wrong" in the cells below in column C for the first example.

Fraction Survey Quiz (Responses) ☆					Steve Ber
File Edit View Insert Format Data Tools Form Help All changes saved in Drive					Comments
<div> \$ % 123 Arial 10 B I A </div>					More
	A	B	C	D	E
1	What is your first name?	Which one of these items is the biggest number?		The key formula in C2 is <code>=IF(B2="3/8","correct","wrong")</code>	
2	Jane	3/8	correct		
3	John Doe	1/3	wrong		
4	Larry Bird	3/10	wrong		
5	Mary	3/8	correct		
6					
7					
8	What is your first name?	What is Steve Bergen's favorite number			
9	Jane	31	sorry, not correct	The key formula in C9 is <code>=IF(B9=33,"good job","sorry, not correct")</code>	
10	John Doe	32	sorry, not correct		
11	Larry Bird	33	good job		
12	Mary	34	sorry, not correct		
13					
14					

Whenever you have numbers (called "numeric data") you do not need quotes.

`=IF(B9=33,`

However, when you deal with words and even 3/8 is called a word since there is no equals in front of it, then you need quotes. We call these "alphanumeric data."

`"sorry, not correct"` or `=IF(B2="3/8",`

Here is a HW assignment problem with the IF statement that requires you to use both the IF formula and the \$ symbol.

HW 4.2 Required

Alice, Barbara and Carol earned scores of 58,78 and 88, respectively on a test. Use an IF statement in a column next to their score to indicate who passed or not by having the word "PASS" or "FAIL" appear automatically. Let us call 65% passing. Then add a column for curving their score using the \$ symbol to reference a number which will increase the grade equally for all 3 of them by whatever percentage is specified in a certain designated cell.

Please do all these homework assignments on 1 spreadsheet called
Lesson 4 Spreadsheet Problems Jane Doe



Each problem you do should be on a different worksheet TAB on the bottom. You can put this file into the folder previously called HW TO STEVE FROM ??? but you should send me an email so I can check your work and give you some feedback.

HW 4.3 Optional

Create a 2 column spreadsheet with the odd numbers from 1 to 21 in the first column. In the second column show the partial sums so next to 3 will be $1+3$ and next 9 will be $1+3+5+7$. You should do this by using a formula in the cell next to 3 that contains a \$ symbol usage and then fill down with the magic trick.

HW 4.4 Optional

Create a three column spreadsheet with the temperatures for 20 consecutive possible Celsius temperatures, e.g. 1 to 20 degrees or 41 to 60 degrees or -31 to -10 degrees in column one. The user should be allowed to choose the low number and your 20 temperatures should be based on that one via formula with the \$ symbol. Then in column two, use a formula that changes Celsius to Fahrenheit such as $F=(9/5)*C+32$ or $F=2.2*C+32$ to compute all the equivalent temperatures. Then in column three, use an IF formula to see if the Celsius and Fahrenheit are the same, saying "same" or "different" in each cell.



Finally, our lesson 4 will involve getting started (first base before second base) with Google Sites. The video below gives you all the details and instructions. Please note that you are being to simply create a SITE with a specified name and type. Once you do so, you send me the URL and I will test it. In the second half of our course, I will be encouraging you to implement something from this course involving students and one or two of you may choose to have a classroom website with each student owning a page as your teacher activity of choice.

Here are some key things to complement the video and to reinforce certain points. Each item marked SPEC is an important specification for you to make sure you do right! In my first few years of being a computer teacher in the 1980s, I had a hard time grading and evaluating computer projects. Then an Art teacher colleague told me about putting SPECS into projects and alerting the students loud and clear that these were some of the items by which they would be evaluated. This was before grading rubrics became popular. Once I started doing that, it was much easier to give students feedback, evaluation and grades on their projects since I had my checklist of SPECS and they would know which ones they did well and which ones they did not complete properly.

You will be dealing with a CAPTCHA that looks like this:

Type the code shown:



It is fun to learn this word which is an acronym for **C**ompletely **A**utomated **P**ublic **T**uring test to tell **C**omputers and **H**umans **A**part, a trademark of Carnegie Mellon University. A CAPTCHA is a type of challenge-response test (named after a computer scientist named Alan Turing) used to determine whether or not the user is human. The term was coined in 2000 (info from <http://en.wikipedia.org/wiki/Captcha>).

Here is the 12 minute video to watch before or after the reading (your choice).

<http://youtu.be/62NAtdAr8xw>



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SPEC: You must use a site name such as 33SteveB33 using a number, your first name, the first initial of your last name and then the same number. You do the typing in this top box and the lower box with your URL is filled in by the computer. Take note of the URL however in the lower box because that is how you tell me you have done this homework!

Name your site:

Site location - URLs can only use the following characters: A-Z,a-z,0-9

<https://sites.google.com/site/>

SPEC: You must choose this grouping -- Schools & Education -- for Site Templates and then you must choose the category of E-Portfolio template for this assignment.

Select a Site Template

Public

Featured

Business collaboration

Activities & events

Schools & education

Clubs & organizations

Personal & family

Search Templates



Classroom site

Pull all your class information tog
Stay connected with pa...**E-Portfolio Template**

E-Portfolio Template

In a subsequent week, we will create a BLANK Google Site and you will see the difference. But for now, you must choose this one.

**E-Portfolio Template**

By nawrojn

E-Portfolio Template

[Preview template](#)

Here are several of the most important choices under the MORE menu

Preview page as viewer	g then p
Page templates	
Save as page template	
Change page template	⬆ + t
Site actions	
✉ Subscribe to site changes	⬆ + f
Edit site layout	⬆ + L
Manage site	g then m

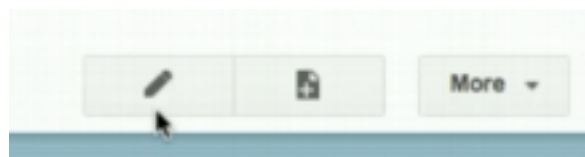
Overview:

Your website will have a URL that looks like <https://sites.google.com/site/66steveb66> with a look that looks like this.



Give your website a title and one sentence with a link to summercore.com/videos

In order to EDIT your website, you need to click the PENCIL





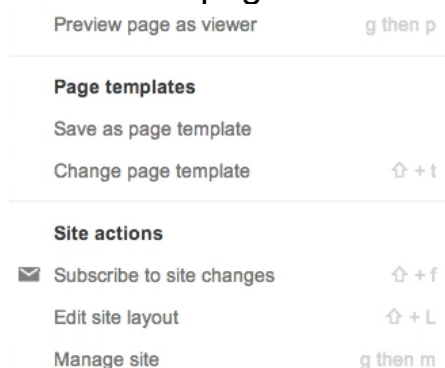
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Here are the two most important parts of the MORE button: EDIT SITE LAYOUT and MANAGE SITE.

The EDIT SITE LAYOUT option lets you get a SIDEBAR for your website.

The MANAGE SITE option lets you permanently delete items.

Also under MORE you will find DELETE page.



Good luck! I look forward to seeing a website from each of you that has one link to summercore.com/videos. Don't forget to give me access by choosing SHARING and changing the sharing specs to



Homework Summary

Assignment 4A: Read this handout

Assignment 4B: Watch the videos mentioned above highlighted in yellow and double-posted onto summercore.com/videos for redundancy and convenience.

Assignment 4C: Schedule a 30 minute phone call or skype with me

Assignment 4D: A few new things to contribute/modify to our WIKI this week located at the tinyurl.com/sconlinegd webpage.

Assignment 4E: Fill out the surveys of the other 6 people in this class.

Assignment 4F: Create a GD Spreadsheet and let each problem be on a different worksheet tab. Put the spreadsheet into the folder called HW to Steve from ??? that you made in a previous lesson. Send me an email when done so I can check!

Assignment 4G: Create your website according to the directions above and send the URL to me

Have a good two weeks and good 3 Day weekend for Columbus Day!



Steve



phone = 781-953-9699
skype name = stevebergen (no spaces)
Email = sbergen33@gmail.com