



commerce
undergraduate
society

COMM 205 MANAGEMENT INFO SYSTEMS 2016 FALL MIDTERM EXAM REVIEW SESSION

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INTRODUCTION

- **Tutor:**
 - Leah Zhang
 - 3rd year Finance student
 - Final grade for COMM 205 – 88%
- **Review Session:**
 - Content:
 1. Course material (*NOTE that this review package is only an *overview* of the course material, which means simply reviewing this review package may not be sufficient for your midterm)
 - draw out key points
 - rearrange & reorganize lecture notes
 - make it easier for you to compare the differences and similarities among different functions
 2. Sample questions (created by me, answers will be posted on CMP review session's FB page after the review session; feel free to come to my office hour (details provided at the end of this review package) should you have any questions ☺)
 3. Practice Midterm
 - Timeline:

This is a 2-hour review session;
First half: lectures 9-15;
10-minute break: feedback form
Second half: sample questions, Q&A, and practice midterm if we have time left
 - *NOTE:

Some questions (ex: "Write the formula by yourself") may have multiple answers; you can come check your answers with me after class or during office hours if you have any confusions, or you can send me your answers by email leahw.zhang@gmail.com (please allow me several hours to get back to you).



IF; NESTED IF; AND/OR; ALL TOGETHER

- **IF Function**
 - Logical function – can be used to test for specific conditions
 - Exactly 2 possible results:
 1. When a condition is satisfied (TRUE)
 2. When the condition is NOT satisfied (FALSE)
 - 3 arguments:
 1. condition to be tested
 2. “true” value
 3. “false” value
 - Syntax: **=IF(logical_test, [value_if_true], [value_if_false])**
 - Ex: =IF(B2>D2, “Good”, “Bad”) → interpretation?
 - “” indicates text (instead of number)
 - do NOT use “” around???
 - *Note: cell can compare both numbers and text
 - Common logical operators (=, <>, <, >, <=, >=)
- **Nested IF**
 - A combination of IF functions; there is/are IF or IFs inside an IF function
 - Can evaluate more than 2 results
 - Ex: =if(A2>55, “CR”, if(A2<50, “F”, “D”)) → interpretation?
- **AND Function**
 - Is used to evaluate if ALL arguments/logicals are TRUE or FALSE
 - Syntax: **=AND(logical1, [logical2], ...)**
 - Up to 255 conditions can be tested
- **OR Function**
 - Is used to evaluate if at least one of arguments/logicals are TRUE or FALSE; i.e., will return TRUE as long as at least one of the arguments is true
 - Syntax: **=OR(logical1, [logical2], ...)**
 - Up to 255 conditions can be tested
 - Ex: =if(OR(B2=“Sunny”, B2=“Mixed”), “Sunglasses”, “None”) → interpretation?
 - *Note: it does not matter if AND or OR is capitalized or not; they should always be written in front of the arguments
- **Relative, absolute, or mixed cell reference**
- **MAX, MIN, and SUM Functions**



COUNTIFS; SUMIFS

- **COUNTIFS** (NOT the same as COUNTIF)
 - Logical function
 - Count the # of times the criteria are TRUE
 - At least 1 criterion; at most [127](#) criteria
 - Syntax: **=COUNTIFS(criteria_range1, criteria1, ...)**
 - Criteria range: range of cells you want to test for
 - Criteria: can be #, cell reference, or text
 - Normally need "" for criteria → but an exact number w/o any logical operator, the "" is not required

- **SUMIFS** (NOT the same as SUMIF)
 - Logical function
 - At least 1 criterion; at most [127](#) criteria
 - Syntax: **=SUMIFS(sum_range, criteria_range1, criteria1, ...)**
 - Normally need "" for criteria → but an exact number w/o any logical operator, the "" is not required
 - *Note: you sum_range must be of the same size and shape with your criteria_range
 - Nested IF with SUMIFS



VLOOKUP

- **VLOOKUP Functions**

- Looks up a value in the first column of a range of cells, then returns a value from any cell on the same row of the range (correspondingly)
- **Exact matches:**
 1. The rows can be in any order
 2. Each value in the first column should be unique; no duplicates
- **Approximate matches:**
 1. “the nearest value that is less than or equal to the search value”
 2. MUST arrange the lookup table so that the data are sorted from the lowest to the highest
 3. MUST only include the lowest value in the range → breakpoint
 4. Do NOT use the complete range

Range	Grade
90 – 100	A+
85 – 89	A
80 – 84	A–
76 – 79	B+
72 – 75	B
68 – 71	B–
64 – 67	C+
60 – 63	C
55 – 59	C–
50 – 54	D
0 – 49	F

Incorrect

Range	Grade
0	F
50	D
55	C–
60	C
64	C+
68	B–
72	B
76	B+
80	A–
85	A
90	A+

Correct

- Syntax: **=VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])**
- For [range_lookup]:
 1. TRUE → approximate match
 2. FALSE → exact match
 3. By default, this is set to TRUE; i.e., can omit TRUE if finding approximate match
 4. MUST type FALSE if finding exact match



INDEX; MATCH

- **INDEX Function**

- Returns a **value** based on its relative position from a range of cells (table)
- Syntax: **=INDEX(array, row_num, column_num)**
- NOTE that 'column_num' is only required when the table contains more than one column

- **MATCH Function**

- Returns a **number** specifying the relative position of a value within a range of cells
- MATCH is the reverse of INDEX
- Syntax: **=MATCH(lookup_value, lookup_array, [match_type])**
- 'lookup_array' can only be either one column or one row
- 'match_type' can either be 1, 0, or -1 → default: 1



LEFT; RIGHT; MID; CONCATENATE

- **LEFT Function**
 - Returns the **first** character(s) in a string of text based on the specified number of characters.
 - Syntax: **=LEFT(text, num_chars)**
 - 'text': cell of the text we want check for
 - 'num_chars': # of characters we want to check
 - Ex: =left(A2,3) → interpretation?
- **RIGHT Function**
 - Returns the **last** character(s) in a string of text based on the specified number of characters.
 - Syntax: **=RIGHT(text, num_chars)**
- **MID Function**
 - Returns character(s) in a string of text, starting at a specified position and based on the specified number of characters.
 - Syntax: **=MID(text, start_num, num_chars)**
 - Ex: =MID(A2, 5, 2) → interpretation?
- **CONCATENATE Function**
 - Join 2 or more strings of text together; at most [255](#) strings of text can be joined.
 - Syntax: **=CONCATENATE(text 1, [text 2], ...)**
 - Ex: =concatenate(C2, "", B2)
- **AMPERSAND (&) Operator**
 - Join multiple strings of text into one; alternative of CONCATENATE
 - Ex: =C2&" "&B2 → same as =concatenate(C2, "", B2)
- **True or False**
 - In cell A1, we have *Management Information System*
 - Then we write =MID(A1, 12, 50)
 - "50" is more than the number of characters we have in this text.
 - Is this notation correct? Or can we get a result from this?
 - We can use a MID function to get the same result as we get from a LEFT function.



LEN; TRIM; SUBSTITUTE; REPLACE

- **LEN Function**
 - **Count** the # of characters
 - Spaces are counted as characters!
 - Syntax: **=LEN(text)**
 - 'text' can either be actual text you type in with quotation marks, or can be cell reference
- **TRIM Function**
 - **Remove** redundant spaces
 - Does NOT remove single spaces between words!
 - Syntax: **=TRIM(text)**
- **SUBSTITUTE Function**
 - **Convert** a text into another
 - **Case sensitive**
 - Syntax: **=SUBSTITUTE(text, old_text, new_text, [instance_num])**
 - Ex: **=SUBSTITUTE(D2, "COMM", "BUSI")** → need "" around texts
- **REPLACE Function**
 - A little bit more powerful than SUBSTITUTE
 - **Case sensitive**
 - Syntax: **=REPLACE(old_text, start_num, num_chars, new_text)**
 - Ex: **=REPLACE(A2, 6, 1, 2)** → '2' is a number, no need to used quotation mark



FIND; SEARCH

- **FIND Function**
 - Looks for 1 text string inside a 2nd text string, and then returns the character number of the starting position of the 1st text string that is in the 2nd text string
 - Syntax: **=FIND(find_text, within_text, [start_num])**
 - 'start_num' is optional; default is 1 (i.e., start looking for the text from the beginning)
 - When does FIND function return the error '#VALUE!?' → 2 cases
 - **Case sensitive**
 - **Does NOT** allow wildcard characters
- **SEARCH Function**
 - Similar to FIND
 - Syntax: **=SEARCH(find_text, within_text, [start_num])**
 - 'start_num' is optional; default is 1 (i.e., start looking for the text from the beginning)
 - SEARCH function returns the error '#VALUE!' when... → 2 cases
 - **NOT case sensitive**
 - **Allows** wildcard characters
 - Wildcard characters: ?, *, ~
- **Application**
 - Ex: =MID(A2, FIND(",", A2)+2, 2)



SAMPLE QUESTIONS



SAMPLE QUESTIONS

1. Use the following screenshot to answer Questions 1) to 5).

	A	B	C	D	E	F
1	City of Vancouver	Q 1)	Q 2)	Q 3)	Q 4)	Q 5)
2	Jericho Beach Park	=LEFT(A2, -1)	=LEFT(A2,2)	=SUBSTITUTE(A2, "jericho", "Kitsilano")	=SUBSTITUTE(A2, "Jericho", "Spanish Banks")	=MID(A2, 3, FIND("o", A2)+3)

1)

	B
2	

2)

	C
2	

3)

	D
2	

4)

	E
2	

5)

	F
2	



2. Give me three ways of changing the text from cell A1 to cell A3 as follows:

	A
1	I Love Management Information System!
2	
3	I Love Management Information \$ystem!

1) _____

2) _____

3) _____



3. True or False:

- 1) Suppose there are 200 random numbers from 0 to 1, located in cells A1 through A200. A COUNTIFS function in cell B2 with one criterion, based on the range A1:A200, can evaluate to greater than 200.
- 2) Suppose there are 200 random numbers from 0 to 1, located in cells A1 through A200. A COUNTIFS function in cell B2 with one criterion, based on the range A1:A200, can evaluate to less than 0.
- 3) A VLOOKUP function can search for one input in a lookup table and can return multiple outputs.
- 4) A VLOOKUP function can search for multiple inputs in a lookup table and can return one output.
- 5) A VLOOKUP function can search for multiple inputs in a lookup table and can return multiple outputs.
- 6) The AND function cannot be used inside of an IF function.
- 7) The OR function can be nested inside an AND function.
- 8) In the MATCH function, 0 means an exact match, and you can write TRUE in lieu of 0.



4. Suppose we have “205” in cell A1, and “excellent” in cell A2.
Give me at least two ways of producing the text “Students in COMM 205 class are excellent.”

	A
1	205
2	excellent

1) _____

2) _____



5. Suppose that we have the 2016 annual profits for 10 small businesses in Canada. Now we want the sum of profits (in \$) for the firms listed below that are NOT headquartered in British Columbia. Note that "BC" is the value for British Columbia in the Headquarters column. Write me a formula that can get the result.

	A	B	C	D	E
1					
2					
3	Firm Names	2016 Profits (in \$)	2016 Sales (in \$)	Headquartes	
4	Aaa	72,838,000	72,938,000	BC	
5	Bbb	73,648,934	73,748,934	AB	
6	Ccc	94,274,659	94,374,659	ON	
7	Ddd	74,636,474	74,736,474	QC	
8	Eee	6,453,623	6,553,623	QC	
9	Fff	2,737,233	2,837,233	AB	
10	Ggg	1,919,282	2,019,282	NS	
11	Hhh	19,393,919	19,493,919	BC	
12	Iii	28,283,838	28,383,838	BC	
13	Jjj	3,948,281	4,048,281	ON	
14					



6. Refer to the screenshot below to do questions 1) and 2):

	A	B	C	D
1	Nationality	Student Name	Comm 205 Grade	
2	Canada	Matthew	87	
3	UK	Emily	95	
4	China	Leah	88	
5	US	Jason	77	
6	Germany	Edwin	80	
7	India	Arie	99	
8	Korea	Sophie	86	
9	Japan	Jana	79	
10				
11	Student Name	Nationality		
12	Matthew	Canada		
13	Jana	Japan		
14	Edwin	Germany		
15	Emily	UK		
16	Jason	US		
17	Leah	China		
18	Arie	India		
19	Sophie	Korea		
20				
21				

1) Given the table [A1:C9], write me at least 2 formulas that can get me A12 (i.e., Matthew). Note that this is an INDEX/MATCH question.

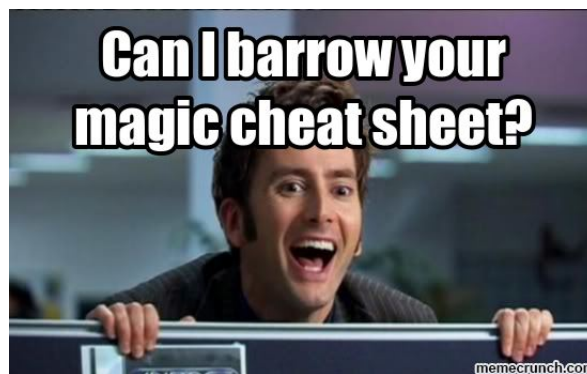
2) What is one possible formula for cell B12 that can be drag down w/o making any changes to the formula and get me [B12:B19]? Note that this is an INDEX/MATCH question, so the values in cells [B12:B19] should come from the lookup table. Assume cells [A12:A19] have been completed for you.

Q & A?
SAMPLE MIDTERM?



“CHEAT SHEET”

- =IF(logical_test, [value_if_true], [value_if_false])
- Nested IF
- =AND(logical1, [logical2], ...)
- =OR(logical1, [logical2], ...)
- =MAX(number1, [number2], ...) & =MIN(number1, [number2], ...) & =SUM(number1, [number2], ...)
- =COUNTIFS(criteria_range1, criteria1, ...)
- =SUMIFS(sum_range, criteria_range1, criteria1, ...)
- Nested IF with SUMIFS Function
- =VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])
- =INDEX(array, row_num, column_num)
- =MATCH(lookup_value, lookup_array, [match_type])
- =LEFT(text,num_chars)
- =RIGHT(text,num_chars)
- =MID(text,start_num,num_chars)
- =CONCATENATE(text1,[text2],...)
- Ampersand (&) Operator, ex: =C2&" "&B2
- =LEN(text)
- =TRIM(text)
- =SUBSTITUTE(text,old_text,new_text,[instance_num])
- =REPLACE(old_text,start_num,num_chars,new_text)
- =FIND(find_text,within_text,[start_num])
- =SEARCH(find_text,within_text,[start_num])
- Wildcard characters
 - ? is used to find any **single** character. One ? is equal to **one** character.
 - * is used to find **any number** of characters.
 - ~ is used to find an actual ?, *, or ~ inside a text string.
- **PAY EXTRA ATTENTION TO:**
 - Quotation marks
 - \$ sign
 - Case sensitive or not
 - VLOOKUP's exact or approximate matches



TIPS FROM THE PROF

- Read questions very carefully!
- Pay attention to **parenthesis!**

MY OFFICE HOUR ☺

- Nov 2nd, 2016
- 12 – 2 pm
- Location: HA 192A

PLEASE FILL OUT THE FEEDBACK FORM!

