Review questions CPSC 203 midterm

Online review questions: the following are meant to provide you with some extra practice so you need to actually try them on your own to get anything out of it. For that reason solutions won't be posted nor will I email you the solution key. But you can still get assistance: If you still have questions after attempting a question then that's where we can help just make sure you have tried them first! [Online review questions] If you just want a quick verification of results, you're in luck, you can try typing your answer into the appropriate program like Excel. The advantage of not providing a solution and requiring you to type it in is that it forces you to come up with an answer before looking at the answer (because you have to type in your answer before seeing any results). Plus recall that the more engage you are, the more that you do, the deeper is your learning. If you're still puzzled about how Excel gave the answer then that is the time that you can come by during my office hours or even the CT.

These questions should provide you with a variety of questions from simple to more challenging.

Short answer
Short answer #1
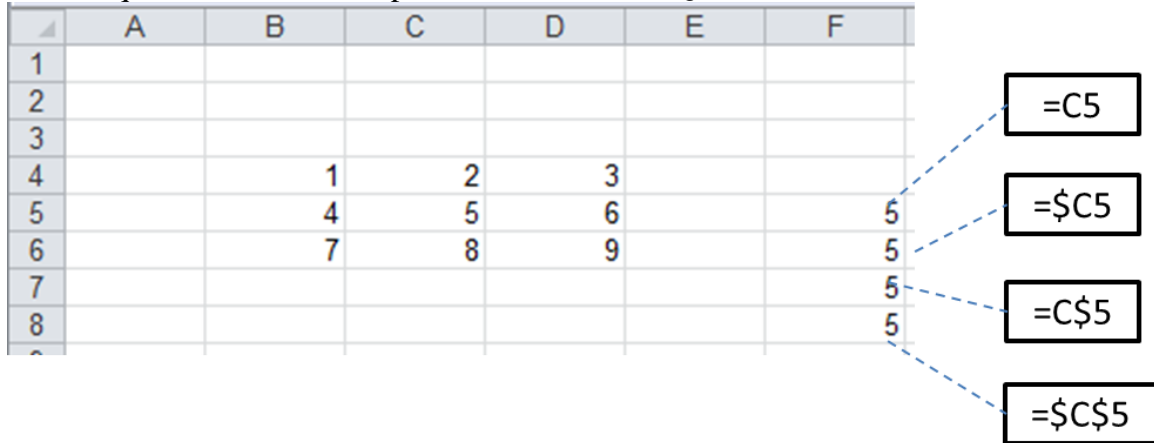For this question refer to the spreadsheet shown in Figure 1.

Figure 1: Starting Excel spreadsheet

Now we refer to the columns in the table below. Given the contents (formulas in Col 2 and number displayed in Col 3) for the four cells (Col 1) in column 'F', the formulas are copied to the locations specified in Col 4. Fill in the formulas in the destinations (Col 5) and the number displayed (Col 6).

Col 1: Current location in the spreadsheet (**Error! Reference source not found.**)	Col 2: Current formula (also shown in the annotations of **Error! Reference source not found.**)	Col 3: Current number displayed (also shown in cells of **Error! Reference source not found.**)	Col 4: Destination in the spreadsheet where the formula is copied	Col 5: Formula in the destination cell	Col 6: Number displayed in the destination cell
F5	=C5	5	G4		
F6	=$C5	5	H7		
F7	=C$5	5	E8		
F8	=C5	5	A1		

Short answer #2

This is an Excel spreadsheet question that analyzes the raw data for ring fighters (Figure 2).

◢	A	B	C	D
1	Fighter information			
2	Fighter	Wins	Losses	Ties
3	Jimmy "The Bullet" Tam	25	0	0
4	Ming "The Steamboat" Dragon	55	45	13
5	Ben "The Jet"	70	12	1
6	Ciara "Jolly" Smith	33	12	20
7	Rocky "The Road"	135	1	2

Figure 2: Fighter statistics

Based on the raw data the spreadsheet categorizes the fighters (Figure 3).

◢	F	G	H	I	J
2	Category	Level	Description	Good bet	Great bet
3	Nugget	Average	Grand master of flowers	Yes	
4	Veteran fighter	Champion	Student		
5	Veteran fighter	Champion	Master		
6	Experienced fighter	Average	Master		
7	Veteran fighter	Grand champion	Grandmaster	Yes	Yes

Figure 3: Fighter categories and rankings

The tables that 'rank' the fighters is shown in Figure 4.

	L	M
2	# Fights	Category
3	0	Newbie
4	12	Nugget
5	40	Experienced fighter
6	75	Veteran fighter
7		
8		
9	# Wins	Level
10	0	Mediocore
11	25	Average
12	50	Champion
13	100	Grand champion
14		
15	Win/total fights percentage	Description
16	0	Student
17	50	Master
18	85	Grandmaster
19	100	Grand master of flowers

Figure 4: Rankings and category tables

What you are given above are the results that the spreadsheet is to produce. What you have to do is to define the Excel formulas that will produce these results based on the following requirements.

Column F 'Category'
Use a lookup function that refers to the table specified in Column L and Column M, Rows 3 - 7. Based on the total number of fights (wins + losses + ties) the ranking for each fighter will be displayed in Column F.

Column G 'Level'
The results in this column are derived based solely on the number of wins (Column B) for a particular fighter. Use a lookup function that finds the category for a fighter (defined in the table specified in Column L and Column M, Rows 10 - 13. The level for each fighter will be displayed in Column G.

Column H 'Description'

The results in this column are derived on the percentage of wins (Column B) over total fights (Column B + C + D) for a particular fighter. Use a lookup function that finds the description for a fighter (defined in the table specified in Column L and Column M, Rows 16 - 19. The level for each fighter will be displayed in Column H.

The ratio of wins over the total number of fights * 100 is the "win percentage" for a fighter. For example, Ming "The Steamboat" Dragon has 55 wins. He has a total of 113 fights (55 + 45 + 13). The percentage equals 55/113 * 100 = 48.67%. Looking this value up in the table he is assigned a description of 'Student'.

Column I 'Is a particular fighter a good bet'

Display "yes" in the cells of this column if a fighter is a good bet, blank otherwise. A fighter must fulfill one of two possible cases in Col H in order to be classified as a good bet:

- The corresponding cell in Col H contains the description: 'Grand master'
- The corresponding cell in Col H contains the description: 'Grand master of flowers'

Column J 'Is a particular fighter a great bet'

Display "yes" in the cells of this column if a fighter is a great bet, blank otherwise. A fighter has to fulfill two conditions in order to be classified as a great bet:
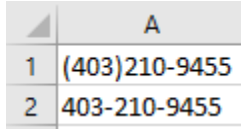
- The fighter is already a "good bet"
- The fighter is experienced and fought over 40 fights.

In the example Jimmy Tam is a good bet but he is not a great bet because he hasn't fought enough yet (25 fights only) while Rocky Road is not only a good bet but has more than met the required number of fights.

Short answer #3

This question involves a trace (determining results) of various string functions.

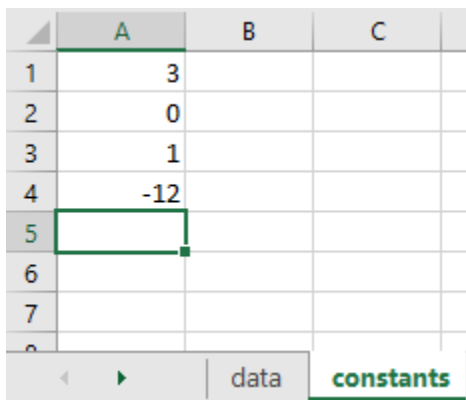The raw data is entered into Cell **A1** & Cell **A2** (Figure 5):

	A
1	(403)210-9455
2	403-210-9455

Figure 5: Raw strings

Given that we have various string functions entered in the cells of Column **C** you are to determine the final result produced by the function or functions.

Cell	Function	Result (what the function evaluates to)
C1	=FIND("-",A1)	9
C2	=FIND("-",A2)	4
C3	=FIND("0",A1)	3
C4	=FIND("0",A1,4)	8
C5	=MID(A1,FIND("-",A1),constants!A1)	-94
C6	=MID(A2,FIND("-",A2),constants!A4)	#VALUE!

Finally, you should note that there is a second worksheet tab in this spreadsheet (Figure 6).

	A	B	C
1	3		
2	0		
3	1		
4	-12		
5			
6			
7			

data **constants**

Figure 6: The 'constants' worksheet

Multiple choice: pick the best answer to the question

1) Ultrabook and netbook computers are the most similar to (indeed variants of) what type of computer?
   a. Apple computers
   b. All-in-one computers
   c. Laptops
   d. Tablets
   e. Windows PC's

2) Comparing the MAC-OS operating system vs. Windows which of the following statements is true? (If covered in lecture)
   a. You can never get infected with a virus on a MAC?
   b. You are less likely to get infected with a virus on a MAC because the software has been proven to be better written.
   c. You are less likely to get infected with a virus on a MAC because there are fewer users.
   d. You have a lower probability of finding rare software on a MAC vs. Windows computer.
   e. (c) & (d)

3) If a storage device had a capacity of 8 MB it could store:
   a. ~8 bits of information.
   b. ~8 bytes of information.
   c. ~8,000 bytes of information
   d. ~8,000,000 bytes of information
   e. ~8,000,000,000 bytes of information

4) The main benefit of a spreadsheet is:
   a. Browsing the web
   b. Editing text
   c. Performing calculations
   d. Storing information so it can be retrieved quickly and efficiently
   e. None of the above

5) Given that cell C1 contained the value *False* and cell D1 contained the value *True* what is the result of the following expression:
   `=AND(NOT(C1),D1)`
   a. 0
   b. 1
   c. False
   d. True
   e. The answer cannot be determined

6) Determine the result of the following logical expression:

	T	F	T
AND	T	F	F
	???	???	???

a. TFT
b. TFF
c. FTT
d. FFF
e. TTT