

COMP1022Q Mid-Semester Review Questions

Most of these questions are from previous midterm exams.

Cell Formula Question – Simple Formulas and Display

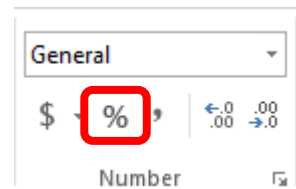
Q1)

Here is a worksheet.

	A	B	C	D
1	Percentage of Employees that have Tertiary Education in Hong Kong			
2	<i>The following data shows the number of people that have tertiary education and the number of employed people from 1996 to 2010. We assume all people that have a tertiary degree get employed.</i>			
3				
4	Academic Year	Number of People that have Tertiary Education	Number of Employed People	% of Employees that have Tertiary Education
5	Before 1996	185000	3084842	
6	1996/97	199776	3205958	<div> <p><i>You don't need to write anything in these cells</i></p> </div>
7	1997/98	214790	3260892	
8	1998/99	229390	3308833	
9	1999/00	243989	3344842	
10	2000/01	258279	3407783	
11	2001/02	272712	3453142	
12	2002/03	287139	3481458	
13	2003/04	302053	3492108	
14	2004/05	317196	3530133	
15	2005/06	332915	3553892	
16	2006/07	348728	3619833	
17	2007/08	364662	3640616	
18	2008/09	379340	3674942	
19	2009/10	396514	3657542	

Column **D** in the table contains the percentage of the number of people who have tertiary education among all employed people. As you can see, a formula will be entered in cell **D5**. The formula will be copied and pasted into cells **D6** to **D19**.

Cells **D5** to **D19** will then be selected and the Excel percentage format (shown on the right) applied. After applying the percentage format, any number in the cells will be displayed as a percentage value, e.g. a cell value of 0.5 will be shown as '50%'.



What is the formula in cell **D5**?

Answer:

The formula in cell **D5** = _____

VBA Question - Loops

Q2)

Here is some VBA code.

```
Sub BuyCandies()  
    Dim Cash As Integer  
  
    Cash = 100  
  
    While Cash > 0  
        If Cash > 100 Then  
            Cash = Cash - 50  
            MsgBox "I have bought some expensive candies!"  
        ElseIf Cash >= 60 Then  
            Cash = Cash - 30  
            MsgBox "I have bought some not so expensive candies!"  
        ElseIf Cash >= 10 Then  
            Cash = Cash - 10  
            MsgBox "I have bought some cheap candies!"  
        ElseIf Cash > 0 Then  
            Cash = Cash - 1  
            MsgBox "I have bought some super cheap candies!"  
        End If  
    Wend  
End Sub
```

When you run the VBA macro shown above some message boxes are shown. How many message boxes are shown?

Answer:

How many message boxes are shown? _____

Cell Formula Question - Precedence

Q3)

Here is a cell formula.

$= 4 / 2 ^ 2 * 4 + 1$

What is the answer?

Answer: _____

Cell Formula Question – IFs inside IFs

Q4)

A numeric movie rating (a number in the range 0-100) is stored in **B3**. In cell **B4** a corresponding letter rating will be automatically given to the movie, as follows:

From 0 to 64 earns a C rating

From 65 to 84 earns a B rating

From 85 to 94 earns an A rating

From 95 to 100 earns an S rating

The result looks like this:

	A	B
1	Movie Rating Conversion	
2		
3	Numeric rating	82
4	Letter rating	B

What is the formula in cell **B4**? Use nested **IF** functions to write the formula in the box below. (A ‘nested IF’ means an IF inside an IF).

You can assume the numeric rating is an integer bigger than or equal to 0, and smaller than or equal to 100. Use as many IFs inside IFs as you need.

Answer:

The formula in cell B4 = _____

VBA Question – Loops with Cells

Q5)

The programme listing for one day of a movie channel has been put in the worksheet shown on the left below. You have been asked to highlight the rows containing movies with a PG rating so that it looks like what is shown on the right below.

	D	E	F
1	Time	Movie	Rating
2	01:25	What Dreams May Come	PG
3	03:40	Machine Gun Preacher	N
4	06:35	The Killer Inside Me	N
5	08:45	My Best Friend's Wedding	PG
6	10:50	The Possession	PG
7	12:35	Hit And Run	PG
8	14:35	Source Code	PG
9	16:30	Something Borrowed	PG
10	18:45	Home Alone 3	PG
11	20:45	Hit And Run	PG
12	22:45	The Bourne Legacy	PG



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7	12:35	Hit And Run	PG
8	14:35	Source Code	PG
9	16:30	Something Borrowed	PG
10	18:45	Home Alone 3	PG
11	20:45	Hit And Run	PG
12	22:45	The Bourne Legacy	PG

You can highlight the cells using VBA code.

The code to highlight the rows containing movies with a PG rating is shown below. Please fill in the four blanks in the code so that it works correctly.

```
Dim Row As Integer
Dim Reference As String

For Row = 2 To 12

    If Cells( _____ , _____ ).Value = "PG" Then

        Reference = " _____ " & Row & ":" & " _____ " & Row

        ' Change to the correct formatting of the movie cells
        Range(Reference).Font.ColorIndex = 3    ' red colour
        Range(Reference).Font.Bold = True       ' bold text

    End If

Next Row
```

Cell Formula Question – Text Handling and LOOKUP

Q6)

Scrabble is a word game in which a player can score points by making a word from letters that carry different scores. The score of each letter has been put in cells **A3:B28** of an Excel worksheet shown on the right.

You have been asked to use Excel formulas to calculate the total score of the word 'Scrabble'. The word has been put in cell **D3** of the worksheet. You are given the following information in cells **D5:F13** to help you calculate the score.

	D	E	F
2	Word		
3	Scrabble		
4			
5	Position	Letter	Score
6	1		
7	2		
8	3		
9	4		
10	5		
11	6		
12	7		
13	8		

	A	B
	Scrabble Letter Score Table	
1		
2	Letter	Score
3	A	1
4	B	3
5	C	3
6	D	2
7	E	1
8	F	4
9	G	2
10	H	4
11	I	1
12	J	8
13	K	5
14	L	1
15	M	3
16	N	1
17	O	1
18	P	3
19	Q	10
20	R	1
21	S	1
22	T	1
23	U	1
24	V	4
25	W	4
26	X	8
27	Y	4
28	Z	10

Part A)

As a first step, you need to separate the word, which is in cell **D3**, into individual letters in cells **E6:E13**. Each individual letter must be shown as an uppercase letter, like this:

	D	E
5	Position	Letter
6	1	S
7	2	C
8	3	R
9	4	A
10	5	B
11	6	B
12	7	L
13	8	E

The formula is entered here

The formula is then copied and pasted into these cells

To do that you need to enter a formula in cell **E6** and then copy and paste the formula to cells **E7:E13**.

What is the formula you need to enter in cell **E6**? You **must only** use the **LEFT** function, the **RIGHT** function and the **UPPER** function in this question.

Answer:

The formula in cell E6 is = _____

Part B)

Based on the result from Part A, you need to find the score of each letter in cells **F6:F13**, as shown below:

	D	E	F
5	Position	Letter	Score
6	1	S	1
7	2	C	3
8	3	R	1
9	4	A	1
10	5	B	3
11	6	B	3
12	7	L	1
13	8	E	1

← The formula is entered here

← The formula is then copied and pasted into these cells

You need to enter a formula in cell **F6** and then copy and paste the formula to cells **F7:F13**. The score of each letter is determined from the letter score table in cells **A3:B28**, which has been shown on the previous page.

The formula in cell **F6** uses the **VLOOKUP** function. Please fill in the three blanks in the function below so that it works as described above.

Answer:

The formula in cell **F6** is = VLOOKUP(_____ ,
 _____ ,
 _____)

Part C)

Please write a formula which gives the total score of the word 'Scrabble' by adding up the score of every letter in the word. In this question, you **must use** the results from Part B, i.e. cells **F6:F13**.

There may be more than one way to write the formula. You need to write the **simplest (least typing)** formula.

Answer:

The formula which gives the total score is = _____

Cell Formula Question – Handling Logic

Q7)

You have created an Excel worksheet to assess whether to purchase your dream car. Your worksheet looks like this:

	A	B	C	D
1	Dream Car Purchase Assessment			
2				
3	Money in bank			2000000
4	Cost of my dream car			1000000
5	Monthly car parking fee			10000
6	Is my partner happy with that?			TRUE
7				
8	Should I buy my dream car?			<input type="text"/>

The formula is entered here

The logic is: if you have enough money to cover the cost of the dream car purchase plus 3 years of parking fee and your partner is happy with that, then you will purchase the dream car.

Using this information, what is the formula of cell D8? It must show either TRUE or FALSE as the output.

Answer: The formula in cell D8 = _____

VBA Question - Variables

Q8)

Here is a macro in an Excel file.

```
Sub Magic()  
    Dim Money As Long  
    Dim MagicTrick As Integer  
  
    Money = InputBox("How much money do you have in your wallet?", _  
                    "Get rich now!")  
  
    MsgBox "I will use my magic trick to give you a bit more money!"  
    MsgBox "ABRACADABRA!"  
  
    MagicTrick = 1.25  
    MsgBox "You now have $" & (Money * MagicTrick) & "."  
End Sub
```

If you run the above macro, enter 4000 in the InputBox and press OK, a few message boxes will then be shown. How much money do you have now, according to the last message box that you see? Excel does not encounter any error when the code is executed.

Answer:

The amount of money you have now according to the last message box is _____