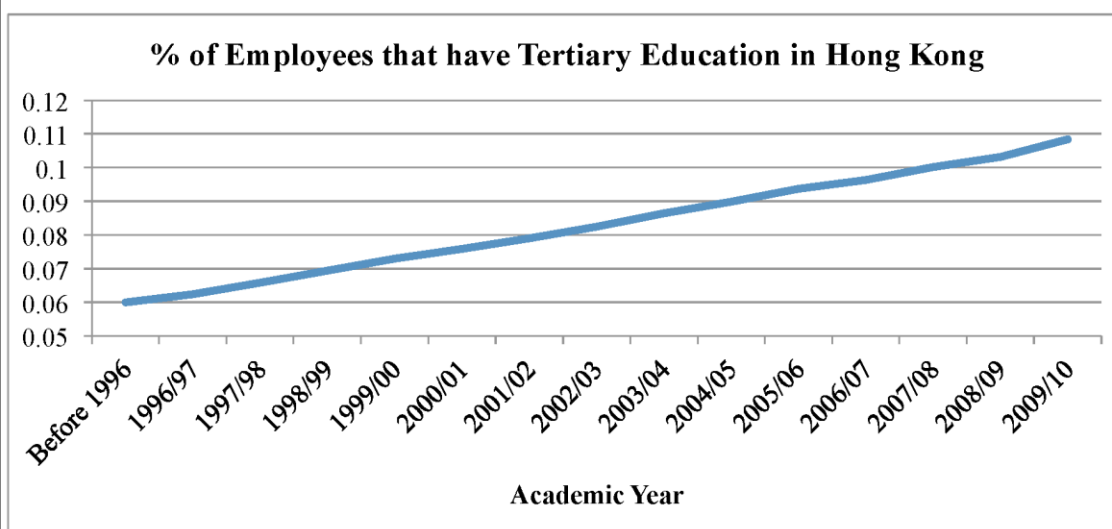


# COMP1022Q Midterm Review Questions

## Cell Formula

Q1) Here is a screen dump showing our target result. The chart at the bottom is included only to give you an overview of the data.

	A	B	C	D
1	<b>Percentage of Employees that have Tertiary Education in Hong Kong</b>			
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	<b>Academic Year</b>	<b>Number of People that have Tertiary Education</b>	<b>Number of Employed People</b>	<b>% of Employees that have Tertiary Education</b>
5	Before 1996	185000	3084842	0.059970657
6	1996/97	199776	3205958	0.062313979
7	1997/98	214790	3260892	0.06586848
8	1998/99	229390	3308833	0.069326557
9	1999/00	243989	3344842	0.072944851
10	2000/01	258279	3407783	0.075790917
11	2001/02	272712	3453142	0.078975032
12	2002/03	287139	3481458	0.082476652
13	2003/04	302053	3492108	0.086495893
14	2004/05	317196	3530133	0.089853838
15	2005/06	332915	3553892	0.093676172
16	2006/07	348728	3619833	0.096338146
17	2007/08	364662	3640616	0.100164917
18	2008/09	379340	3674942	0.103223398
19	2009/10	396514	3657542	0.108409965



### Sources

<http://cdcf.ugc.edu.hk/cdcf/statIndex.do>

[http://www.censtatd.gov.hk/hong\\_kong\\_statistics/statistics\\_by\\_subject/index.jsp?subjectID=2&charsetID=1&displayMode=T](http://www.censtatd.gov.hk/hong_kong_statistics/statistics_by_subject/index.jsp?subjectID=2&charsetID=1&displayMode=T)

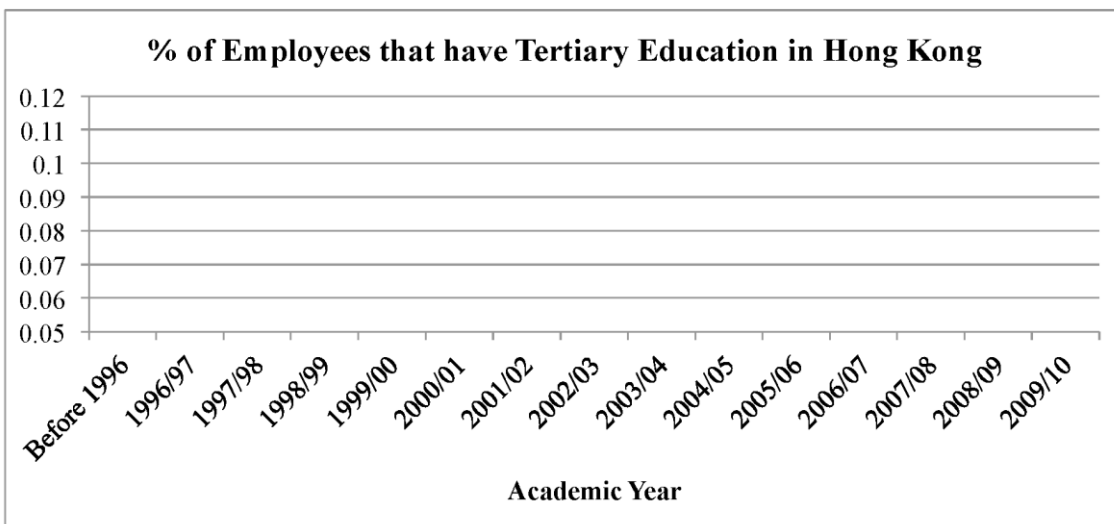
To achieve this result, you need to enter a correct Excel cell formula in **D5** that calculates the percentage of employees that have tertiary education. The formula will be copied and pasted into **D6** to **D19**. The correct values of the cells are shown in the previous screen dump on page 1.

	A	B	C	D
1	<b>Percentage of Employees that have Tertiary Education in Hong Kong</b>			
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	<b>Academic Year</b>	<b>Number of People that have Tertiary Education</b>	<b>Number of Employed People</b>	<b>% of Employees that have Tertiary Education</b>
5	Before 1996	185000	3084842	
6	1996/97	199776	3205958	
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	

Write your answer here

*You don't need to write anything in these cells*

Your answer will be copied and pasted into these cells



#### Sources

<http://cdcf.ugc.edu.hk/cdcf/statIndex.do>

[http://www.censtatd.gov.hk/hong\\_kong\\_statistics/statistics\\_by\\_subject/index.jsp?subjectID=2&charsetID=1&displayMode=T](http://www.censtatd.gov.hk/hong_kong_statistics/statistics_by_subject/index.jsp?subjectID=2&charsetID=1&displayMode=T)

## Cell Formula Logic Question

Q2)

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

	A	B	C	D
1	<b>Dream Car Purchase Assessment</b>			
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?			

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 should show either TRUE or FALSE as the output. Please write the formula in the box below.

<b>f<sub>x</sub></b>	=
----------------------	---

## Nested IF Question

Q3)

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	<b>Movie Rating Conversion</b>	
2		
3	Numeric rating	82
4	Letter rating	B

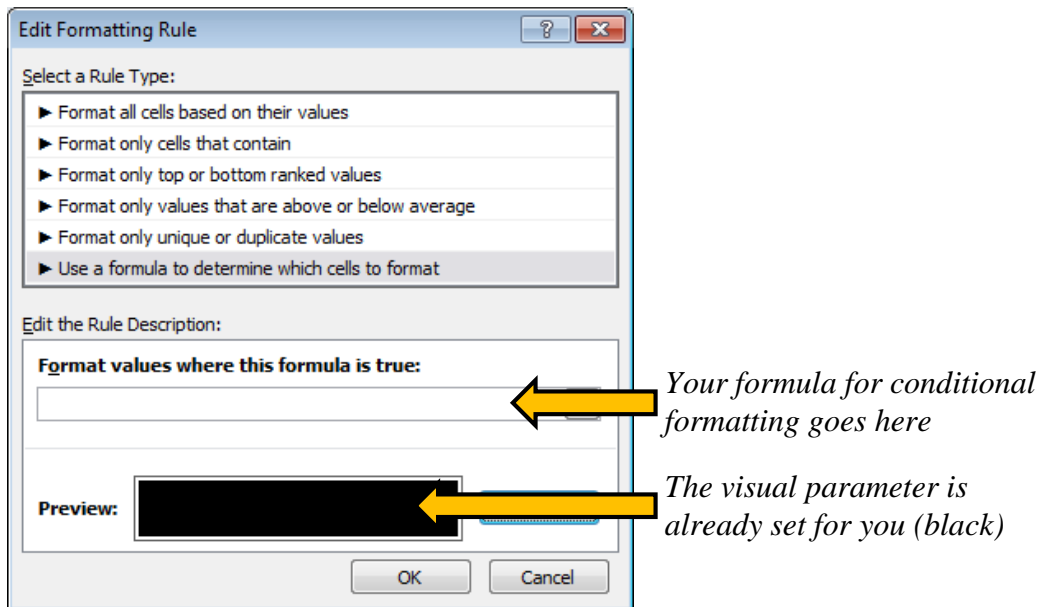
What is the formula in cell **B4**? Use nested IF functions to write the formula in the box below.

<b>f<sub>x</sub></b>	=
----------------------	---

## Conditional Formatting Question

Q4)

In this question, you need to complete the formula used for conditional formatting. The visual formatting is already set up. You only need to complete the formula for the rule. Here is a screen dump reminding you what the *Edit Formatting Rule* dialog looks like.



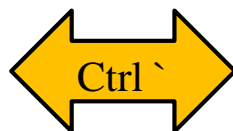
Your formula needs to produce the same result shown in the screen dump (on the next page).

Here are some cell functions you may need for your answers.

ROW ( )	The cell function ROW ( ) returns the row number of a cell. For example, the cell formula =ROW (B5) returns 5.
COLUMN ( )	The cell function COLUMN ( ) returns the column number of a cell. For example, the cell formula =COLUMN (D7) returns 4.
MOD ( )	The cell function MOD (A, B) returns the integer remainder of A / B. For example, the cell formula =MOD (8, 3) returns 2.

Here are some more examples.

	A		A
1	=ROW(D5)	1	5
2	=ROW()	2	2
3	=COLUMN(D5)	3	4
4	=COLUMN()	4	1
5	=MOD(5, 2)	5	1



Part A) Here is the result of the conditional formatting.

	A	B	C	D	E	F	G	H
1	Pattern							
2	This is made by conditional formatting.							
3								
4								
5								
6								
7								
8								
9								
10								
11								

The conditional formatting is applied to A4:H11 only

There is only **one** conditional formatting rule in this Excel worksheet. The rule changes the background colour of some of the cells to black. It is applied to every cell in A4:H11 only.

What is the formula of the conditional formatting rule? Write your answer in the box below.

**Format values where this formula is true:**

Part B) Here is the result of the conditional formatting.

	A	B	C	D	E	F	G	H
1	Chess Board							
2	The chess board is made by conditional formatting.							
3								
4								
5								
6								
7								
8								
9								
10								
11								

The conditional formatting is applied to A4:H11 only

There is only **one** conditional formatting rule in this Excel worksheet. The rule changes the background colour of some of the cells to black. It is applied to every cell in A4:H11 only.

What is the formula of the conditional formatting rule? Write your answer in the box below.

**Format values where this formula is true:**

## VLOOKUP Questions

Q5)

A flight information checker system has been created in a worksheet called “Checker”. To use the worksheet, you can enter the country and city of the flight destination to check the distance and time required for any flights departing Hong Kong. The worksheet is shown below:

**Information of Flights Departing Hong Kong**

**Please enter the destination**

**Country:**

**City:**

**Unit of Distance:**  (miles or kilometers)  
(Invalid input are highlighted)

**Flight Information**

**Distance:** 7,336.0

**Flight Time:** 9:28

In the worksheet shown above the country and city of the destination are entered in cell **C6** and **C8** respectively. The unit of display for the distance travelled is entered in cell **C10**. If these inputs are entered correctly, the flight distance and time will be displayed accordingly.

The flight information is stored in another worksheet, called “Information”, as shown here:

	A	B	C	D	E	F
1	Country	City	Country-City	Distance (miles)	Distance (kilometers)	Flight Time
2	Afghanistan	Baghlan	Afghanistan-Baghlan	2888.8	4649.1	6:00
3	Afghanistan	Balkh	Afghanistan-Balkh	2995.7	4821.1	6:13
4	Afghanistan	Bamyan	Afghanistan-Bamyan	2930.8	4716.6	6:05
5	Afghanistan	Ghazni	Afghanistan-Ghazni	2882	4638.1	5:59
2018	Western Saha	El Aaiun	Western Sahara-El Aaiun	7535.3	12126.8	15:39
2019	Yemen	Aden	Yemen-Aden	4569.6	7354.1	9:29
2020	Yemen	Sana	Yemen-Sana	4564.8	7346.3	9:29
2021	Zambia	Lusaka	Zambia-Lusaka	6359.3	10234.3	13:12
2022	Zimbabwe	Harare	Zimbabwe-Harare	6243.4	10047.7	12:58

Each row contains the information of a flight departing from Hong Kong and arriving at a particular destination city. Column **D** is the distance travelled in miles, Column **E** is the distance travelled in kilometers and column **F** is the duration of the flight.

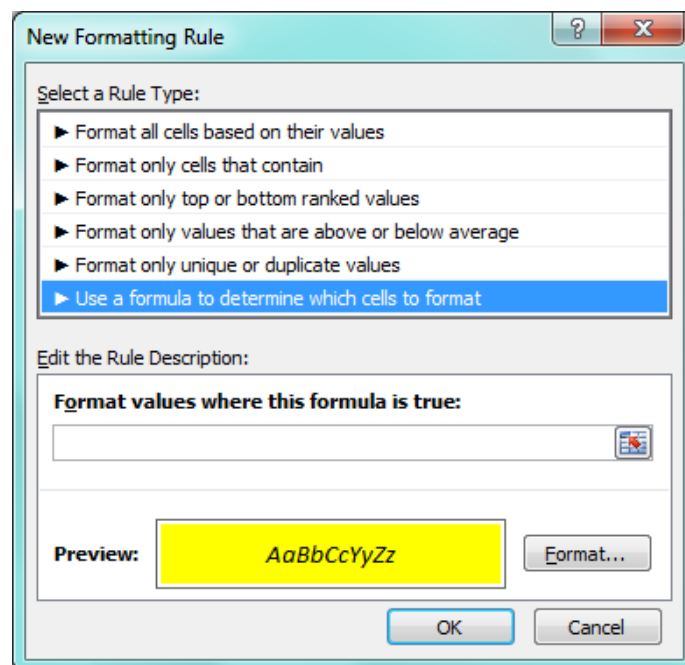
Part A)

In cell **C8** of the “Checker” worksheet, the cell will be highlighted using a yellow background if the city entered in cell **C8** is NOT in the country which has already been entered in cell **C6**. For example, if you enter “USA” in cell **C6** and then “Shanghai” in cell **C8**, cell **C8** will be highlighted with yellow, as shown below, because Shanghai is not in USA.

**Please enter the destination**

Country:	USA
City:	Shanghai

If you enter correct information such as “China” and “Shanghai” cell **C8** will not be highlighted. To do this, a new conditional formatting rule is set up for cell **C8**:



The formula in the rule will be created using a combination of the ISNA and VLOOKUP functions. Your task is to fill in the four parameters in the VLOOKUP function shown below so that the conditional formatting rule works as described above:

=ISNA (VLOOKUP ( \_\_\_\_\_ ,  
\_\_\_\_\_  
\_\_\_\_\_, \_\_\_\_\_ )

Part B)

After entering the correct country and city the flight information will be displayed in cell **D16** and cell **D18**. The flight distance in cell **D16** is displayed using either miles or kilometers, depending on the value in cell **C10**. For example, here is the information of the flight going to Sydney, which is stored in the “Information” worksheet, and the display of the flight information:

Country	City	Country-City	Distance (miles)	Distance (kilometers)	Flight Time
Australia	Sydney	Australia-Sydney	4558.4	7336	9:28

When the display unit in cell **C10** is “miles”:

Flight Information	
Distance:	4,558.4
Flight Time:	9:28

When the display unit in cell **C10** is “kilometers”:

Flight Information	
Distance:	7,336.0
Flight Time:	9:28

You need to use a VLOOKUP function in cell **D16** to show the correct distance. Please fill in the parameters of the VLOOKUP function in the space below.

Hint: you may need to use another formula function in one of the parameters.

= VLOOKUP ( \_\_\_\_\_ ,  
 \_\_\_\_\_ ,  
 \_\_\_\_\_ , FALSE )

Q6)

There are five different formulas listed below. We assume that in the worksheet the value in cell **A1** can be found in one of the cells in column C and the values in column C are sorted in ascending order. Based on these assumptions, four of the formulas will produce the same result and one of them will produce a different result.

These formulas are not copied and pasted and they are not located anywhere within column A to column G. Which one will produce a different result?

- A)  B)
- C)  D)
- E)

Answer:

The formula that will produce a different result is (A/B/C/D/E): \_\_\_\_\_



## VBA If Question

Q7)

Assume there is a cell with name **WishOfPeter** and another cell with name **FinalResult**.

We have the following VBA code in the workbook.

```
Private Sub Worksheet_Change(ByVal Target As Range)

    Dim WishOfPeter As String

    If Target.Address = Range("WishOfPeter").Address Then
        WishOfPeter = Range("WishOfPeter")

        If InStr(1, WishOfPeter, "book") > 0 Then
            Range("FinalResult") = "sexy ladies"
        ElseIf InStr(1, WishOfPeter, "GameCube") > 0 Then
            Range("FinalResult") = "xbox"
        ElseIf InStr(1, WishOfPeter, "note") > 0 Then
            Range("FinalResult") = "COMP 1022Q course textbook"
        ElseIf InStr(1, WishOfPeter, "notebook") > 0 Then
            Range("FinalResult") = "notebook for taking notes"
        Else
            Range("FinalResult") = "fresh air"
        End If
    End If

End Sub
```

What will be shown in the cell called **FinalResult** if we enter *notebook* in the cell called **WishOfPeter** and then press the 'Enter' key?

- A) sexy ladies
- B) xbox
- C) COMP 1022Q course textbook
- D) notebook for taking notes
- E) fresh air

**Answer:**

The text shown in FinalResult is (A/B/C/D/E): \_\_\_\_\_

## VBA Looping Question

Q8)

Here is some VBA code.

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

When you open the Excel file that contains the VBA code shown above some message boxes are shown. How many message boxes are shown? What messages are shown?

**Answer:**

**How many message boxes are shown:** \_\_\_\_\_

**What messages are shown:** \_\_\_\_\_