Quiz 3 solutions and explanations

IMPORTANT: Even if you do not intend/need to look through the solutions to Quiz 3, you still need to mark this quiz as completed using the blue "Mark as Completed" button in the lower right of this page. By doing so, you will unlock Assignment 3!

This document is meant to provide clear explanations for the Quiz 3 questions (not the in-video quizzes since they have explanations already). I do NOT provide feedback during the quiz (like I do for the screencasts) because a learner could just guess, obtain the correct answers, then put them back into the quiz and get 100%!

This document is purely for you to learn more and to correct your misconceptions about the material. If you view this document soon after you take the quiz to see why you missed a certain question, it will serve as a great learning tool!

PLEASE DO NOT SHARE THIS DOCUMENT WITH ANYONE! Using this document to complete Quiz 3 is a violation of Coursera's Honor Code (a.k.a. cheating).

Question 1:

Which of the following correctly depict how we would take the value in cell C4, assign that value to the variable x, obtain y in an input box, and output the absolute value of the difference between x and y in the active cell. Multiple correct answers possible.

A.

```
Option Explicit

Sub CombineThings()
Dim x As Double, y As Double, z As Double
x = Cells(4, 3)
y = InputBox("Enter a number:")
ActiveCell = Abs(x - y)
End Sub
```

Correct! Cells(4,3) is the same as cell C4, so we set x = to the value in that cell. We obtain y in an input box then calculate the absolute value of the difference between x and y and place that into the active cell.

B.

```
Option Explicit

Sub CombineThings()
Dim x As Double, y As Double, z As Double
x = Cells(3, 4)
y = InputBox("Enter a number:")
z = Abs(x - y)
ActiveCell = z
End Sub
```

Incorrect. This will all work except Cells(3,4) corresponds to cell D3, not C4.

C.

```
Option Explicit

Sub CombineThings()
Dim x As Double, y As Double, z As Double
x = Range("C4")
y = InputBox("Enter a number:")
z = Abs(x - y)
ActiveCell = z
End Sub
```

Correct! We obtain x as the value in cell C4, obtain y in an input box, calculate z as the absolute value of the difference between x and y, then display z in the active cell.

D.

```
Option Explicit

Sub CombineThings()
Dim x As Double, y As Double, z As Double
x = ActiveCell
y = InputBox("Enter a number:")
z = Abs(x - y)
Range("C4") = z
End Sub
```

Incorrect. There are no compiler errors here, but this subroutine is not doing what is requested. This sub adds the active cell value to a value input by the user in an input box, then places the absolute value of the difference between those in cell C4.

E.

```
Option Explicit

Sub CombineThings()
Dim x As Double, y As Double, z As Double
x = Selection.Range("C4")
y = InputBox("Enter a number:")
ActiveCell = Abs(x - y)
End Sub
```

Incorrect. Most of this will work except for line 3. Selection.Range(“C4”) is not, in general, equal to cell C4 of the worksheet. If, for example, the selection were cells C3:G12, Selection.Range(“C4”) would correspond to row 4, column 3 of that selection, or cell E6.

Question 2:

Given the spreadsheet setup shown below, which of the following VBA statements on the left side of the arrow are correctly paired with the resulting value on the right side of the arrow? Multiple answers are possible.

	A	B	C	D
1	1	2	3	4
2	5	6	7	8
3	9	10	11	12
4	13	14	15	16
5	17	18	19	20
6	21	22	23	24
7	25	26	27	28

A. Selection.Range("A2") --> 14

Correct! The selection is comprised of cells B3:C5. Range(“A2”) of that range is row 2, column 1 of B3:C5, which is cell B4 and a value of 14.

B. Range("B2:C7").Cells(2,2) --> 11

Correct! Row 2, column 2 of cells B2:C7 corresponds to cell C3, which has a value of 11.

C. ActiveCell.Offset(-2,1) --> 19

Incorrect. The active cell is B3, so 2 rows up and 1 column right is cell C1, which has a value of 3, not 19.

D. Selection.Cells(1,3) --> 18

Incorrect. The selection is comprised of cells B3:C5. Row 1, column 3 of this selection is cell D3 (value of 12). Even though D3 is not part of the selection, it is still recognized when using this code.

E. Range("B4:D7").Range("B3") --> 10

Incorrect. This corresponds to the 3rd row, 2nd column of range B4:D7, which is cell C6 and a value of 23.

Question 3:

Given the spreadsheet setup below and if the user enters 2 in the input box, what value will be shown in the message box when the WhatWillHappen subroutine is run?

	A	B	C	D
1	4	5	3	1
2	2	3	5	1
3	5	3	6	2
4	3	5	1	2
5	5	1	2	3
6	5	2	4	5
7	4	4	5	5

```
Sub WhatWillHappen()
Dim y As Integer
y = InputBox("Please enter a number:")
ActiveCell.Offset(Range("B2:D5").Cells(3, y), Selection.Cells(3, y)).Select
MsgBox Cells(y + 1, ActiveCell - 1)
End Sub
```

Ans: 5

Explanation: If the user enters 2 in the input box, then y = 2. Cells(3,2) of range B2:D5 refers to cell C4, which has a value of 1. So, 1 is the first part of the Offset function. Selection.Cells(3,y) = Selection.Cells(3,2) which is cell C5 (value of 2). Therefore, the Offset function yields ActiveCell.Offset(1,2).Select. This selects cell D4, which has a value of 2. Cells(y+1,ActiveCell-1) = Cells(3,1) = cell A3 = 5. So, 5 is displayed in the message box!

Question 4:

Which of the following VBA statements on the left side of the arrow are correctly paired with a description of that statement on the right side of the arrow? Multiple answers are possible.

A. FormatNumber(x,3) --> formats x to the hundredths place

Incorrect. Because the second argument is 3, this will format x to the thousandths place.

B. ActiveCell.Offset(-1,0).Clear --> Erase the contents of the cell just below the single cell selected on the current worksheet

Incorrect. This will erase the contents of the cell just *above* the single cell selected on the current worksheet (the active cell).

C. nCols = Selection.Columns.Count --> Assign to a variable nCols the number of columns in the selected block of cells on the current worksheet

Correct! This statement will count the number of columns in the selection and assign it to the variable nCols.

D. Cells("B2:C9").Select --> Select cells B2:C9 on the current worksheet

Incorrect. You cannot use Cells in this way (i.e., using a range of cells like this).

E. Pi = WorksheetFunction.PI() --> “Borrow” the PI() function from the spreadsheet environment and assign it to a variable Pi in VBA.

Correct! This will borrow Excel’s PI function and store the value in the local variable Pi.

Question 5:

Which of the following correctly result in the message box output provided on the right side of the arrow with the event on the left side of the arrow when the ErrorOops sub is run? Multiple correct answers are possible.

```
Option Explicit

Sub ErrorOops()
Dim a As Integer, Here As String, y As Integer
On Error GoTo There
y = y + 1
a = InputBox("Please enter a number:")
MsgBox a ^ 2
Exit Sub
Here:
y = y + 1
MsgBox y
Exit Sub
There:
y = y + 1
GoTo Here:
End Sub
```

A. Cancel button on input box is clicked --> 1 displayed in the message box

Incorrect. First, y is incremented to 1. If the Cancel button is clicked, this will cause an error. On error, the code jumps to There. y is then bumped up to 2 in line 13, and the code then goes to Here (line 8). y is again bumped up by 1 to a value of 3 and then displayed in a message box. Finally, the sub is exited.

B. Cancel button on input box is clicked --> 3 displayed in the message box

Correct! First, y is incremented to 1. If the Cancel button is clicked, this will cause an error. On error, the code jumps to There. y is then bumped up to 2 in line 13, and the code then goes to Here (line 8). y is again bumped up by 1 to a value of 3 and then displayed in a message box. Finally, the sub is exited.

C. 3 is entered into the input box --> 1 is displayed in the message box

Incorrect. First, y is incremented to 1. 3 is entered into the input box, so a = 3. 9 would then be displayed in the message box on line 6.

D. OK button on input box is clicked when "hi" is entered --> 3 displayed in the message box

Correct! First, y is incremented to 1. If “hi” is entered into the input box, this will cause an error since the data type of a is not String (it is Integer). On error, the code jumps to There. y is then bumped up to 2 in line 13, and the code then goes to Here (line 8). y is again bumped up by 1 to a value of 3 and then displayed in a message box. Finally, the sub is exited.

E. 2 is entered into the input box --> 4 is displayed in the message box

Correct! First, y is incremented to 1. 2 is entered into the input box, so a = 2. 4 would then be displayed in the message box on line 6.