Assignment 2

Download the zipped folder "**Assignment 2.zip**", save to your computer, and then extract the files (right click and "Extract All"). This folder contains starter and grader files for Assignment 2.
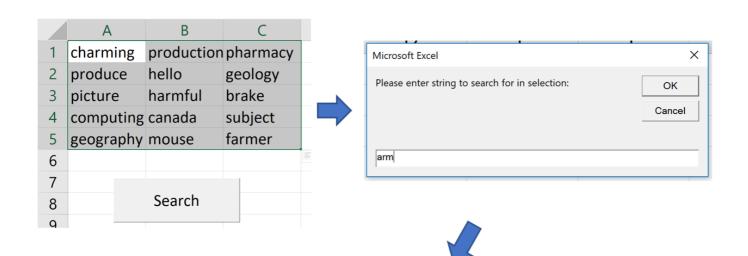
IMPORTANT: All subroutines (macros) and functions must be named exactly as indicated in the problem statement(s). Otherwise, the grading file will not recognize your procedures. For each assignment, I have placed one or more starter files that contain the **Sub/End Sub** or **Function/End Function** with the correct procedure names.
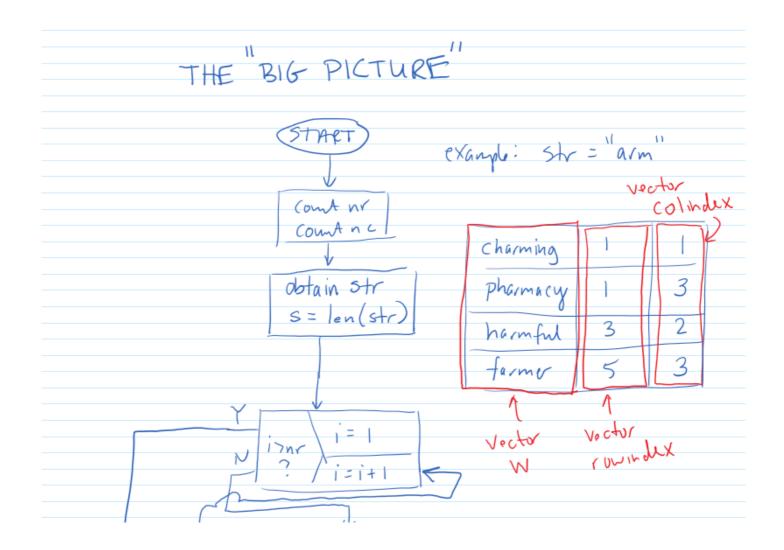
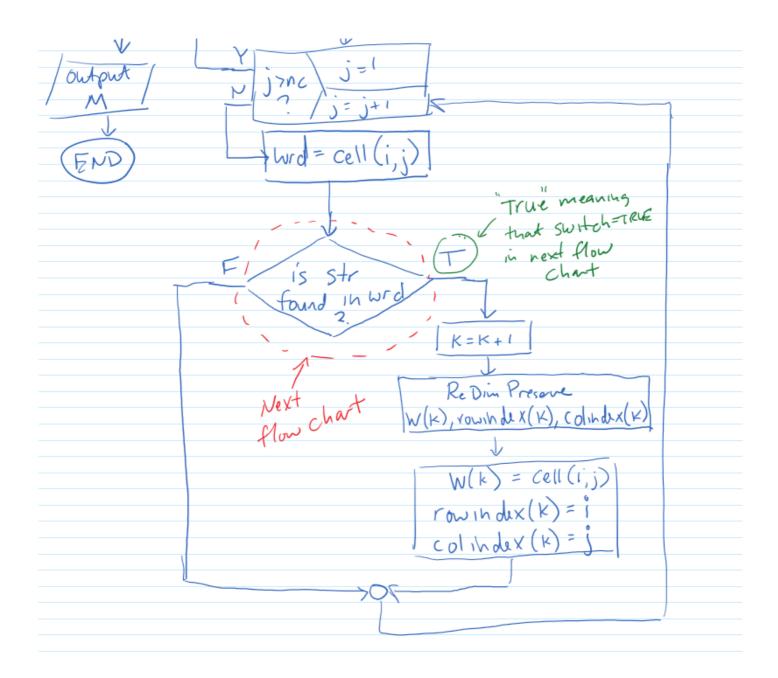Assignment 2 has a starter file available.

Problem Statement

Create a VBA subroutine called **SearchForString** that will search through a selection for a user-defined sub-string. The subroutine will then output (starting in cell **E1**) all words in the original selection that have the sub-string. If there are no matches, a message box should alert the user. Furthermore, the subroutine should output the row number and column numbers of the location in the original selection in which the sub-string was found. These indices should be output to the right of any matching words (row indices starting in cell **F1** and column indices starting in cell **G1**). The flow charts below will help you greatly. **NOTE: Your subroutine should work for *any* selection on the worksheet and for any size of selection, and the output/results should ALWAYS start in E1 to G1 (and rows immediately below for multiple matches).**
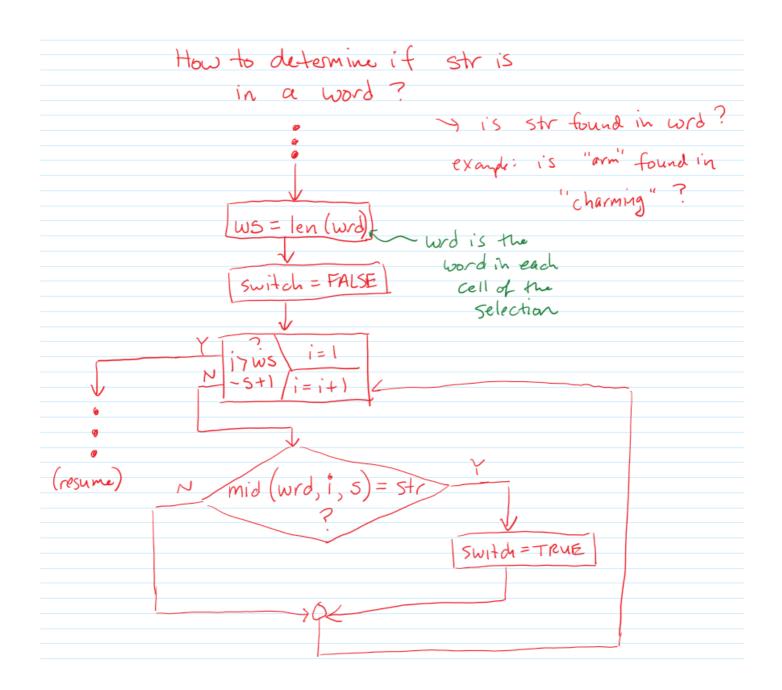
Example:

Excel spreadsheet (initial):

	A	B	C
1	charming	production	pharmacy
2	produce	hello	geology
3	picture	harmful	brake
4	computing	canada	subject
5	geography	mouse	farmer
6			
7			
8		Search	
9			

Microsoft Excel ✕

Please enter string to search for in selection:

OK   Cancel

```
arm
```

Excel spreadsheet (result):

	A	B	C	D	E	F	G
1	charming	production	pharmacy		charming	1	1
2	produce	hello	geology		pharmacy	1	3
3	picture	harmful	brake		harmful	3	2
4	computing	canada	subject		farmer	5	3
5	geography	mouse	farmer				
6							
7							
8		Search					
9							

THE "BIG PICTURE"

START

Count nr
Count nc

obtain str
s = len(str)

i > nr ?
Y → i = 1
N → i = i+1

example: str = "arm"

	vector colindex
charming	1 1
pharmacy	1 3
harmful	3 2
farmer	5 3

Vector W

Vector rowindex

j > nc ? / j = 1

N / j = j + 1

wrd = cell (i,j)

"True" meaning
that switch = TRUE
in next flow
chart

F / is str
found in wrd
2.

T

Next
flow chart

K = K + 1

Re Dim Preserve
W(K), rowindex(K), colindex(K)

$W(k) = cell(i,j)$
rowindex(k) = i
colindex(k) = j

How to determine if str is in a word?

→ is str found in word?

example: is "arm" found in "charming"?

ws = len(wrd) ← wrd is the word in each cell of the selection

Switch = FALSE

? i > ws - s+1 | i = 1 | i = i+1

(resume)

mid(wrd, i, s) = str ?

N

Switch = TRUE

When you feel that your procedure is working properly, open up the "**Assignment 2 – GRADER.xlsm**" file, which will check your work. If correct, you will be provided a completion code, which you can enter into the Coursera website.