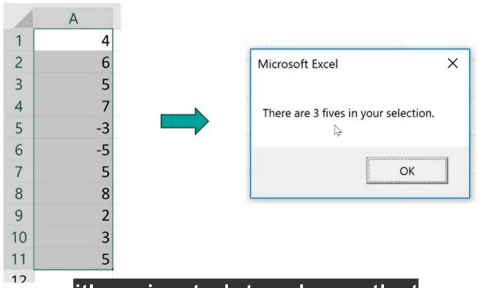
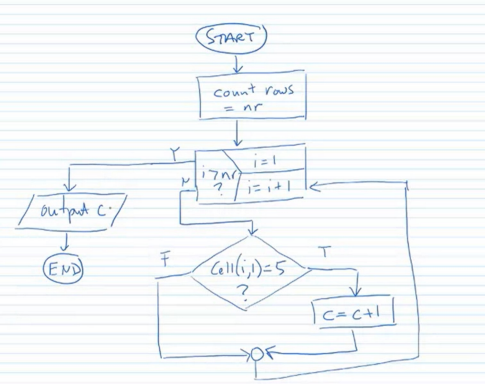
```
Sub GuessingGame()
Dim n As Integer, G As Integer
n = WorksheetFunction.RandBetween(1, 10)
Do
    G = InputBox("I'm thinking of a number between 1
    If G = n Then Exit Do
    MsgBox ("Guess again!")
Loop
MsgBox ("Congratulations! You guessed the number!")
End Sub
```

```
Option Explicit

Function Divisible(n As Integer) As Integer
Dim i As Integer, c As Integer
For i = 1 To n
    If i Mod 3 = 0 Or i Mod 5 = 0 Then
        c = c + 1
    End If
Next i
Divisible = c
End Function
```

Create a VBA sub that will count the number of 5's in a selection (column vector)?






```
Sub CountFives()
Dim nr As Integer, i As Integer, c As Integer
nr = Selection.Rows.Count
For i = 1 To nr
    If Selection.Cells(i, 1) = 5 Then c = c + 1
Next i
MsgBox ("There are " & c & " fives in your selection.")
End Sub
```

```
Option Explicit

Sub SelectionLooper()
Dim i As Integer, c As Integer
For i = 1 To Selection.Rows.Count
    If Selection.Cells(i, 1) > 0 Then
        c = c + Selection.Cells(i, 1)
    End If
Next i
MsgBox c
End Sub
```

What will be displayed in cell **B2** when the **Halloween** function is run with cell **A1** as the argument?

```
Option Explicit

Function Halloween(n)
Dim i As Integer
Dim sum As Integer
For i = 1 To n
    sum = sum + 2 * i
Next i
Halloween = i * sum
End Function
```

	A	B	C
1	4		
2		=Halloween(A1)	

i	sum
1	0 + 2(1) = 2
2	2 + 2(2) = 6
3	6 + 2(3) = 12
4	12 + 2(4) = 20

here i would be 5 ∴ when i = 5 loop will not run loop has limit of 4

- The sub sums the positive items in a column selection.

Iterating through a Selection vs. a Range

Name	Color	Zip Code
Jacob	Red	65291
Gilbert	Green	78565
Emily	Blue	38123
Jerry	Yellow	49550
Rosalind	White	93796

Name	Emily
Color	Brown

Names
Emilio
Emily
Frank
Gilbert
Jacob

=sort(unique(B4:B13

UNIQUE(array, [by_col], [exact

Emily	Blue	38123		Color	Brown		Frank	
Jerry	Yellow	49550					Gilbert	
Rosalind	White	93796					Jacob	
Peter	Black	59046					Jerry	

	A	B	C	D	E	F	G	H	I
1	Iterating through a Selection vs. a Range								
2									
3	Name	Color	Zip Code				Names	Colors	
4	Jacob	Red	65291		Name	Jerry	Emilio	Black	
5	Gilbert	Green	78565				Emily	Blue	
6	Emily	Blue	38123		Color	Brown	Frank	Brown	
7	Jerry	Yellow	49550				Gilbert	Emerald	
8	Rosalind	White	93796				Jacob	Green	
9	Peter	Black	59046				Jerry	Orange	
10	Max	Emerald	52143				Max	Pink	
11	Sally	Brown	60045				Peter	Red	
12	Frank	Pink	53785				Rosalind	White	
13	Emilio	Orange	64490				Sally	Yellow	
14									

```
Option Explicit

Sub NameColorFinderSelection()
Dim nr As Integer, i As Integer, NameRow As Integer, ColorRow As Integer
nr = Selection.Rows.Count
For i = 1 To nr
    If Selection.Cells(i, 1) = Range("name") Then NameRow = i
    If Selection.Cells(i, 2) = Range("color") Then ColorRow = i
Next i
MsgBox "Name was found in row " & NameRow & " and color was found in row " & ColorRow & "."
End Sub
```

```
Sub NameColorFinderRange()
Dim nr As Integer, i As Integer, NameRow As Integer, ColorRow As Integer
nr = WorksheetFunction.CountA(Columns("A:A")) - 2
For i = 1 To nr
    If Range("A" & i + 3) = Range("name") Then NameRow = i
    If Range("B" & i + 3) = Range("color") Then ColorRow = i
Next i
MsgBox "Name was found in row " & NameRow & " and color was found in row " & ColorRow & "."
End Sub
```

Create a VBA sub that will delete -999s in a column of data.

	A
1	6.7
2	7.1
3	6.9
4	6.4
5	-999
6	5.7
7	5.4
8	5.5
9	-998
10	6.1
11	6.5
12	7.2
13	-999
14	8.1

	A
1	6.7
2	7.1
3	6.9
4	6.4
5	
6	5.7
7	5.4
8	5.5
9	
10	6.1
11	6.5
12	7.2
13	
14	8.1

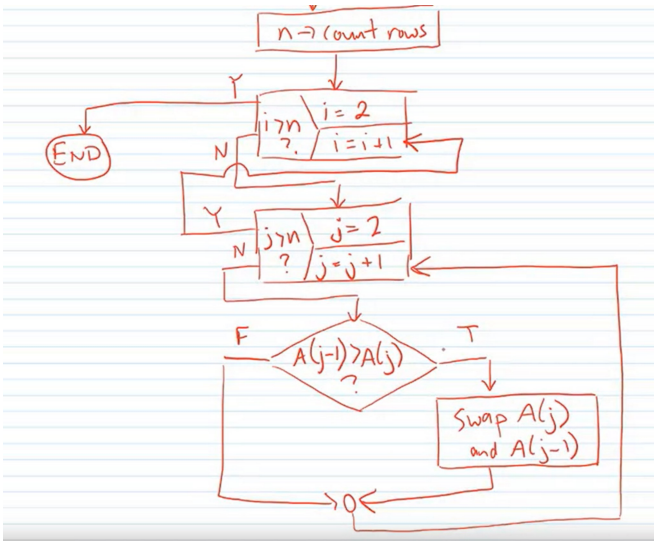
```
Option Explicit

Sub Delete999()
Dim nr As Integer, i As Integer
nr = Selection.Rows.Count
For i = 1 To nr
    If ActiveCell = -998 Or ActiveCell = -999 Then
        ActiveCell.Clear
    End If
    ActiveCell.Offset(1, 0).Select
Next i
End Sub
```

```
Sub Delete999()
Dim nr As Integer, i As Integer
nr = Selection.Rows.Count
For i = 1 To nr
    If Selection.Cells(i, 1) = -998 Or Selection.Cells
        Selection.Cells(i,1) = ""
    End If
Next i
End Sub
```

Create a VBA sub that will sort a vector of values in ascending order using the bubble sort algorithm.

	A
1	5
2	7
3	3
4	9
5	1

	A
1	1
2	3
3	5
4	7
5	9




```
Option Explicit

Sub BubbleSort()
Dim n As Integer, i As Integer, j As Integer
Dim Temp As Double
n = Selection.Rows.Count
For i = 1 To n
    For j = 1 To n
        If Selection.Cells(j - 1, 1)                    > Selection.Cells(j, 1) Then
            Temp = Selection.Cells(j, 1)
            Selection.Cells(j, 1) = Selection.Cells(j - 1,
            Selection.Cells(j - 1, 1) = Temp
        End If
    Next j
Next
End Sub
```