[关闭]

## **VBA** Cheatsheet

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- VBA Cheatsheet
  - Selecting Objects
  - <u>Setting Properties</u>
  - Variables and Arrays
  - Conditions
  - <u>Loops</u>
  - Procedures & Functions
  - Input & Output

#### **Selecting Objects**

```
# Select a range with index
      Range("A1").Select
      Range("A1:B2").Select
      Range("A1","B2").Select
      Range("A:A").Select
                                             # select column A
      # Select a range without index
      Range("A1").End(xlDown).Offset(0,1) # first empty cell
 9.
      Range("A1000").End(xlUp).Offset(0,1) # first emtpy cell
      Range("A1",Range("A1").End(xlDown)) # all cels w/ data
10.
11.
12.
      # Select a worksheet
      Sheets("Sheet2").Range("A8").Select
Sheets("Sheet2").Activate
13.
14.
15.
16.
      # Work with current cell
17.
      Selection.Offset(1,0).Select
                                             # go to next cell below
      ActiveCell.Offset(1,0).Select
```

## **Setting Properties**

```
# Change cell content
      Range("A1").Value = "Sample Text for one cell"
      Range("A1:B3").Value = "Fill all cells"
      Range("A:A").Clear
                                            # clear content in column
 4.
 5.
      # Chance formatting
                                            # Bolden the selected cell
      Selection.Font.Bold = True
      Range("A1:A5").Font.Color = vbRed
                                            # change color to red
9.
10.
     # Change multiple properties
11.
     With ActiveCell
          .Font.Size = 18
12.
          .Borders.Weight = 3
13.
      End With
```

#### Variables and Arrays

```
# Different Variables
 1.
 2.
      Option Explicit # requires you to dim before using a variable
      Sub demo1()
          Dim last As String, first As String, age As Integer
          Dim area As Range
 5.
 6.
          Set area = Range("A1")
 7.
          first = area.Value
          last = Range("A2").Value
 9.
          age = 1
     End Sub
10.
11.
12.
13.
      # Arrays
      Option Base 1 # change the first index of array from 0 to 1
14.
15.
      Sub demo2()
          # static array
17.
          Dim array1(3) As String
          array1(1) = "change content"
18.
19.
20.
21.
          # dynamic array
22.
          Dim array2() As String
23.
          ReDim array2(1 to 10)
                                          # set the size later
24.
          ReDim Preserve array2(1 to 20) # increase the size
25.
26.
          Dim array3 As Variant
          array3 = Array("Mon","Tues","Wed","Thurs","Fri")
27.
28.
          MsgBox array3(1) # this should be Mon with Base 1
29.
          # ranges to array
30.
31.
          Dim array4 As Variant
32.
          Dim dataRange As Range
33.
          Set dataRange = Range("A1", Range("A1").End(xlDown)).Value
34.
          array4 = dataRange.Value
          array4(2,1) = "Value in A2"
35.
                                         # 2 dimentional array
36.
          dataRange.Value = array4
                                         # update range value
37.
38.
          # Get array dimentions
          MsgBox LBound(array3) &"-" & UBound(array3) # 1-5
39.
                                   # first dimension
# second dimension = 1
40.
          MsgBox LBound(array4,1)
41.
          MsgBox LBound(array4,2)
42.
43.
          # iterate through array
44.
          Dim day as Variant
45.
          For Each day in array3
46.
              MsgBox day
          Next day
47.
48.
          Dim i As Integer
49.
          For i = LBound(array4,1) to UBound(array4,1)
50.
              MsgBox array4(i,1)
51.
52.
          Next i
53.
54.
      End Sub
```

#### **Conditions**

# Boolean Values

```
2.
      Dim trueValue As Boolean, falseValue As Boolean
 3.
      trueValue = (1+1 = 2)
                                           # True
      falseValue = (2>1) AND (1+2=4)
 4.
                                           # False
      falseValue = False
 5.
                                           # False
 6.
 7.
      # One line If statement
      If trueValue Then MsgBox("1+1=2") # message (1+1=2)
 8.
      If falseValue Then MsgBox("False!") # message nothing
 9.
10.
      # Basic If Statement
11.
12.
      Dim v As Integer
13.
      v = 5
      If v <= 0 Then
14.
15.
          MsgBox "value is zero or negative!"
16.
      Elif v \mod 2 = 0 Then
17.
          MsgBox "value is a positive even number"
18.
      Else
19.
          MsgBox "value is a positive odd number"
20.
      End If
21.
      # Case
22.
23.
      Select Case v
24.
          Case 0
              MsgBox "zero"
25.
26.
          Case 1, 2, 3
              MsgBox "1, 2, or 3"
27.
          Case 4 To 9
28.
29.
              MsgBox "4, 5, 6, 7, 8, or 9"
30.
          Case v >= 10
31.
              MsgBox "double digits positive number"
32.
              MsgBox "negative number"
33.
34.
      End Select
```

### Loops

```
#While...Wend
 1.
 2.
      x = 1
 3.
      While x<=10
 4.
          MsgBox x
 5.
          x = x + 1
 6.
      Wend
 7.
 8.
      # Do while...
 9.
      x = 1
10.
      Do While x <= 10 # print 1 to 10
11.
          MsgBox x
12.
          x = x + 1
13.
      Loop
14.
15.
      x = 1
16.
      Do while x<=10 # print 1 to 7
          if x = 7 Then Exit Do
17.
18.
          MsgBox x
19.
          x = x + 1
20.
      Loop
21.
22.
      # Do... Until
23.
      x = 10
      Do Until x=11
24.
25.
          MsgBox x
26.
          x = x + 1
```

```
27. Loop
28.
29. # For ... Next
30. For x = 1 to 10
31. MsgBox x
32. Next x
```

#### **Procedures & Functions**

```
# Call a Sub
 1.
 2.
      Sub demo1()
          MsgBox "1"
 3.
          Call demo2
      End Sub
 5.
 6.
 7.
      Sub demo2()
          MsgBox "2"
 9.
      End Sub
10.
11.
      # Call a function
12.
      Sub demo3()
13.
          MsgBox (doubleAmount(2)) # print 4
14.
      End Sub
15.
16.
      Function doubleAmount(i As Integer) As Integer
17.
          doubleAmount = i * 2
18.
      End Function
19.
20.
      # Recursive function (a fuction that calls itself)
21.
      Function Fibonacci(i As Integer) As Integer
22.
          If i = 1 Or i = 2 Then
23.
              # base case
24.
              Fibonacci = 1
25.
          Else
26.
              # recursive case
27.
              Fibonacci = Fibonacci(i-1) + Fibonacci(i-2)
28.
          End If
29.
      End Function
```

# **Input & Output**

```
    Dim name As String
    name = InputBox("What is your name?")
    MsgBox("Hello, " &name & "!")
```

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