Day 5

Vexing VBA

The Data Boot Camp | June 27, 2018

Refresher

What are the four building blocks in programming?

Common structures in nearly all languages:

1. **Variables / Arrays**

2. **Functions**

3. **Conditionals**

4. **Iteration**

Variables: The Nouns of Code

- **Variables** are effectively the <u>items</u> in a procedure.

```
dim ing1 as String
dim ing2 as String
dim budget as Double
```

Variable Declaration

```
ing1 = "Peanut Butter"
ing2 = "Jelly"
budget = 5.00
```

Variable Assignment

- **Arrays** are effectively **groups** of related items. It presents another way to store and reference like pieces of information.
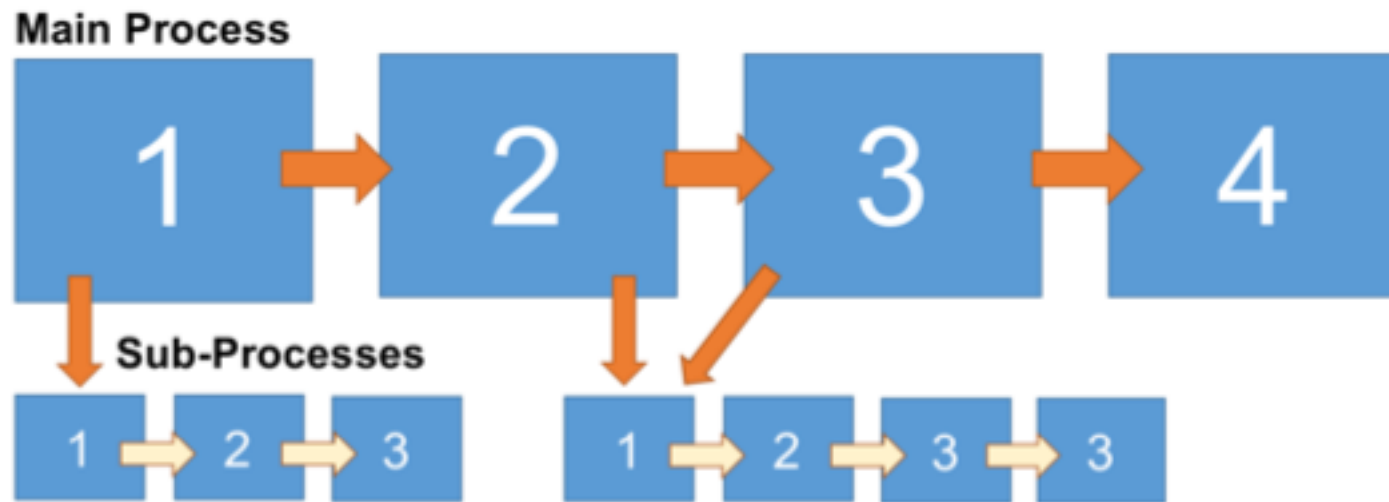
```
dim ingredients(3) as String

ingredients(0) = "Peanut Butter"
ingredients(1) = "Jelly"
ingredients(2) = "Bread"
```

Array Declaration

Array Assignment

Functions: For When One Block *Can't* Do it All

- **Functions** are, in essence, a sort of "sub-processes". They allow us to create pre-made, re-usable blocks of code which can be called on demand.

Main Process

```
1 → 2 → 3 → 4
```

Sub-Processes

```
1 → 2 → 3        1 → 2 → 3 → 3
```

```
' Functions can abstract complex actions
MsgBox("Hi mom!")

' Functions can perform calculations
words = Split("The quick brown fox jumps over the lazy dog", " ")
```
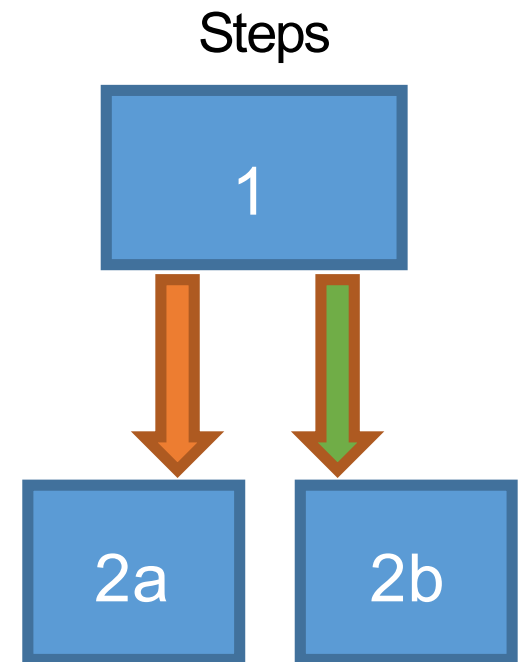
Conditionals: If This… Then That.

- In VBA, conditionals are simply declared using the keywords If, Then, Elseif, Else, and End if.

```
If (pbThickness > 1.0) Then
    stopSpreading()

Else

    spreadMore()

end if
```

Steps

Iteration: Round and Round We Go!

- **Iteration** is the concept of using loops to perform a group of tasks repeatedly for a number of times.

```
' Repeat the same step until i becomes 20
For i = 0 to 20

    ' Each time spread more
    spreadMore()


' Add one to the value of i each time
Next i
```

Let's Start Coding