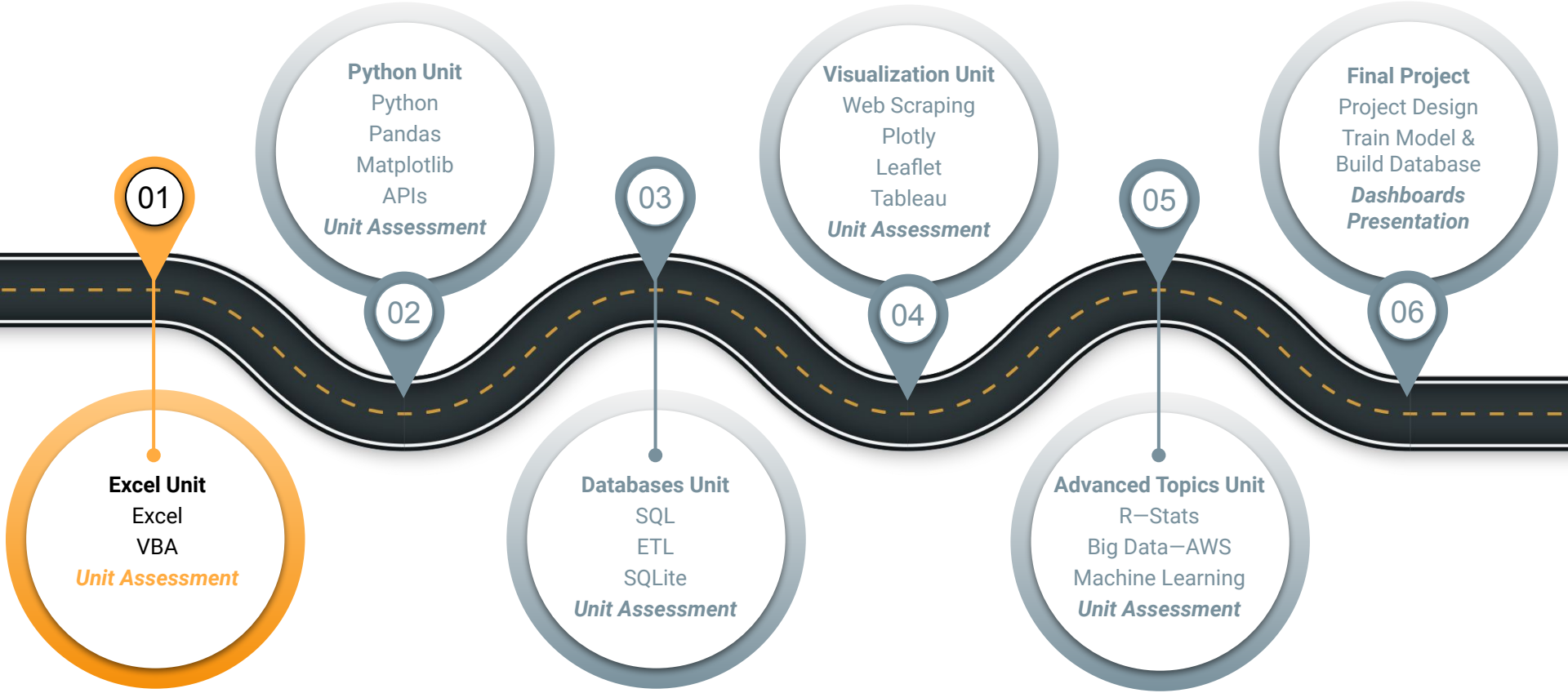
Data Boot Camp

Lesson 2.2

Module 2

This Week: VBA

The Big Picture



This Week: VBA

By the end of this week, you'll know how to:

- Create a macro that can trigger pop-ups and inputs, read and change cell values, and format cells
- Use for loops and conditionals to direct logic flow
- Use nested for loops
- Apply coding skills such as syntax recollection, pattern recognition, problem decomposition, and debugging

This Week's Challenge

Using the skills learned throughout the week, refactor existing code to make a VBA macro run more efficiently.

Module 2

Today’s Agenda

Today’s Agenda

By completing today’s activities, you’ll learn the following skills:

01 Nested For Loops & Conditionals

02 Create interactivity with buttons and format cells with VBA

Make sure you’ve downloaded any relevant class files!

FIST TO FIVE:

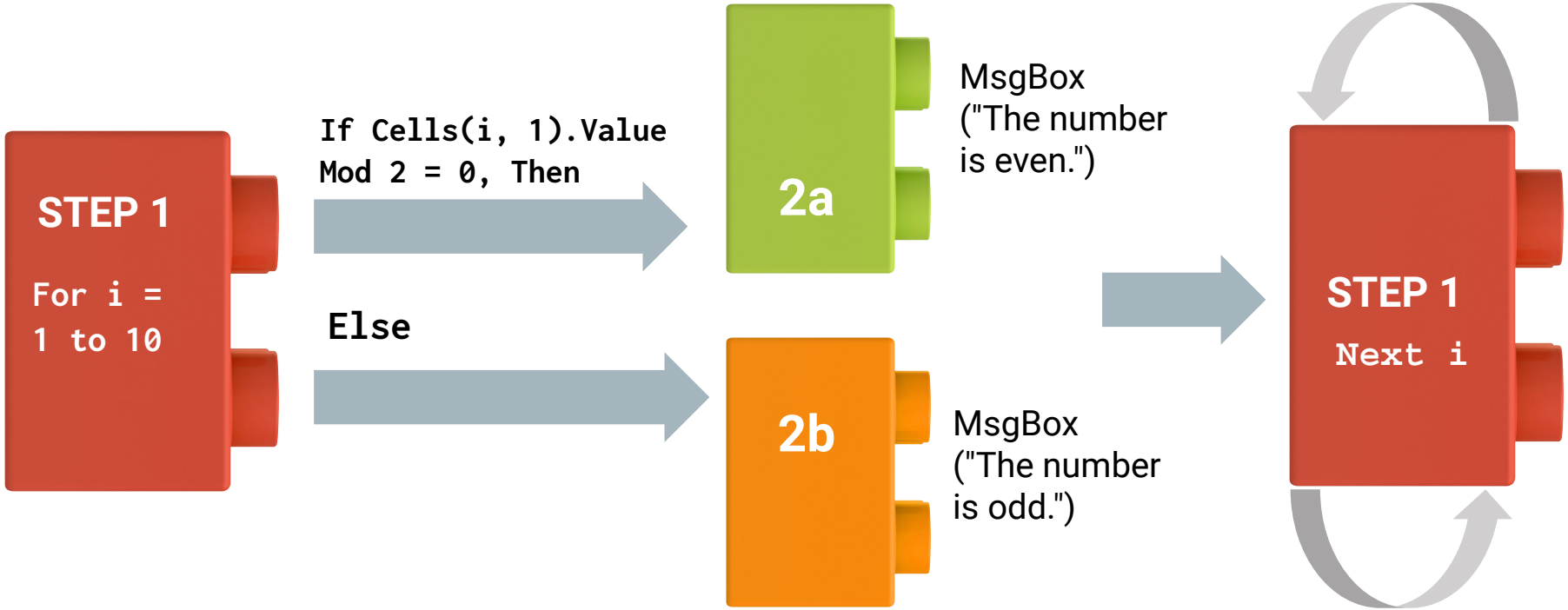
How comfortable do you feel with VBA?

Looped Conditionals

Looped Conditionals are a way to repeat one or more steps depending on if a condition is True or False.

Looped Conditionals:

Inside a for loop you use if/else code for this purpose.



Looped Conditionals

```
For i = 1 to 10
    If Cells(i, 1).Value Mod 2 = 0 Then
     MsgBox ("The number is even.")

    Else
        MsgBox("The number is odd.")

    End If

Next i
```

Instructor Demonstration

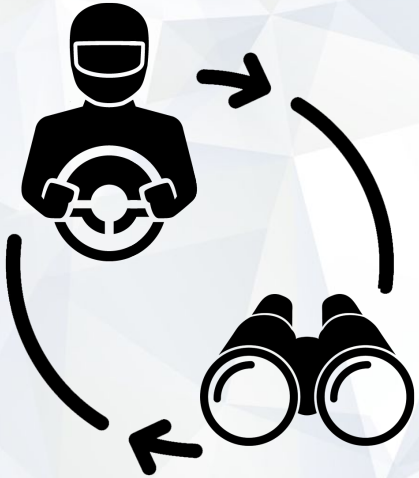
Looped Conditionals

Activity Workbook: Loop Conditionals

As your review the file, think about the following questions:

- Where have we used this before?
- How does this activity equip us for the Challenge?
- What can we do if we don't completely understand this?

We used a looped conditional to check if the value of a cell in the first column was "DQ" when we looped through all the rows in Lesson 2.2.3.



Pair Programming Activity:

Fizz Buzz

In this exercise, the you will work in pairs on a very popular logic problem in coding, Fizzbuzz, which is often given in technical interviews–across all programming languages.

Suggested Time:

20 minutes

Pair Programing Activity: Fizz Buzz

If a number is divisible by just 3	then the code should print **Fizz**
If a number is divisible by just 5	then the code should print **Buzz**
If a number is divisible by both 3 and 5	then the code should print **FizzBuzz**

Time’s Up! Let’s Review.

Questions?

Nested For Loops

A **nested loop** is a for loop within a for loop, where each loop has its own iterator variable.

Instructor Demonstration

Nested For Loops

Activity Workbook: Nested For Loops

As your review the file, think about the following questions:

- Where have we used this before?
- How does this activity equip us for the Challenge?
- What can we do if we don't completely understand this?

We created a nested for loop to loop through the tickers array and run the analysis with a for loop in Lesson 2.3.2.

Activity: Stars Counter

In this activity you will have access to an Excel spreadsheet containing 50 rows of "review data" for two online language learning programs, Spanish and French. Using your knowledge of VBA, it is up to you to determine the total number of stars that each user gave their respective program, and then find the total number of stars both programs received.

Suggested Time:

20 minutes

Time’s Up! Let’s Review.

Activity: Stars Counter

Point out that this part of the code

```vb
    // Loop through each row
    For i = 2 to 51
```

can be replaced with this code.

```vb
  // Counts the number of rows
  lastrow = Cells(Rows.Count, 1).End(xlUp).Row
  // Loop through each row
  // Use lastrow variable instead of 51
  For i = 2 to lastrow
```

Questions?

Creating Buttons

Instructor Demonstration

Button Clicks

Activity Workbook: Button Clicks

As your review the file, think about the following questions:

- Where have we used this before?
- How does this activity equip us for the Challenge?
- What can we do if we don't completely understand this?

We created a form control button to clear the worksheet in Lesson 2.5.1.

Activity: Choose Your Button

In this activity you will be running a subroutine of your own to trigger two buttons that elicit different messages when clicked.

Suggested Time:

15 minutes

Questions?

VBA Formatting

VBA Formatting allows us to format the values within cells, automatically fit column widths, change font, and apply color using a variety of functions.

Instructor Demonstration

VBA Formatting

Activity: VBA GradeBook

In this activity you are going to create an Excel application that checks a fictional student's grade and performs some actions based upon the grade.

Suggested Time:

15 minutes

Time’s Up! Let’s Review.

Questions?