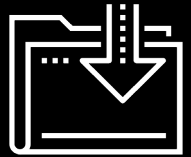


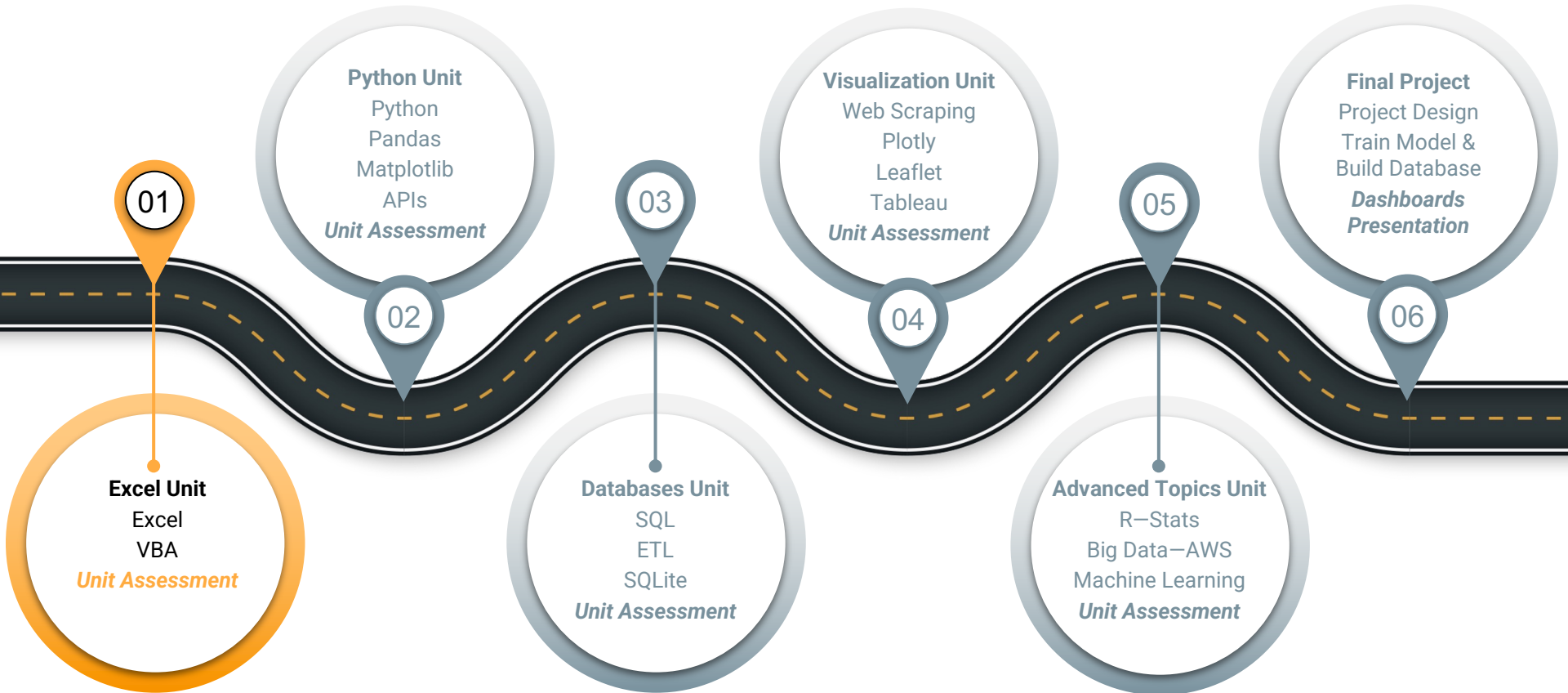
## Data Boot Camp

---

### Lesson 2.2



# The Big Picture



## Module 2

# This Week: VBA

# 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

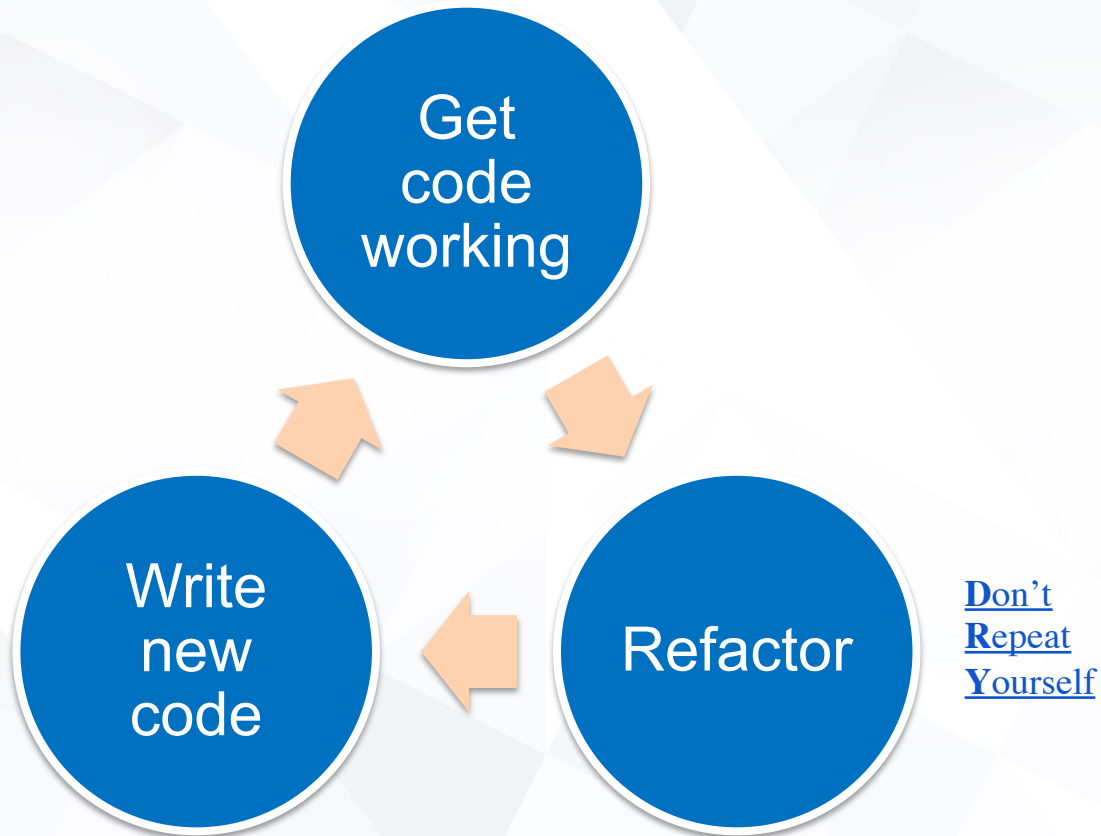


## This Week's Challenge

---

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

# The Coding / Software Development Cycle



## 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

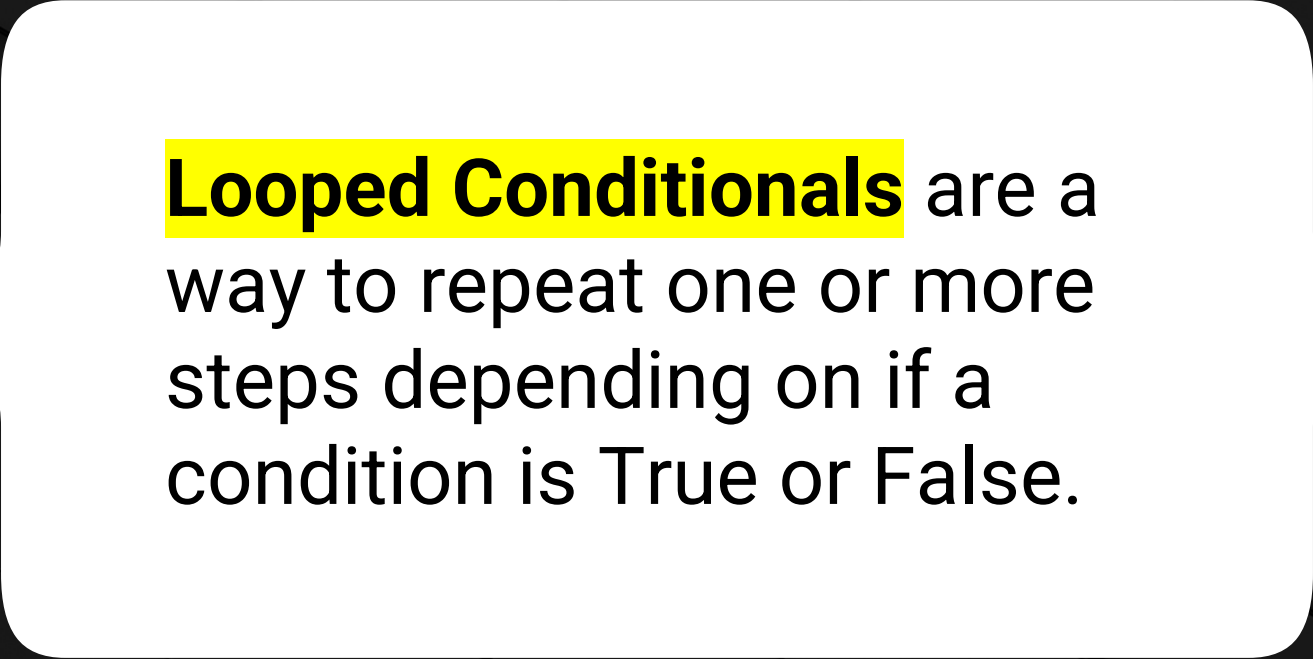
Interactive Buttons



**Make sure you've downloaded  
any relevant class files!**



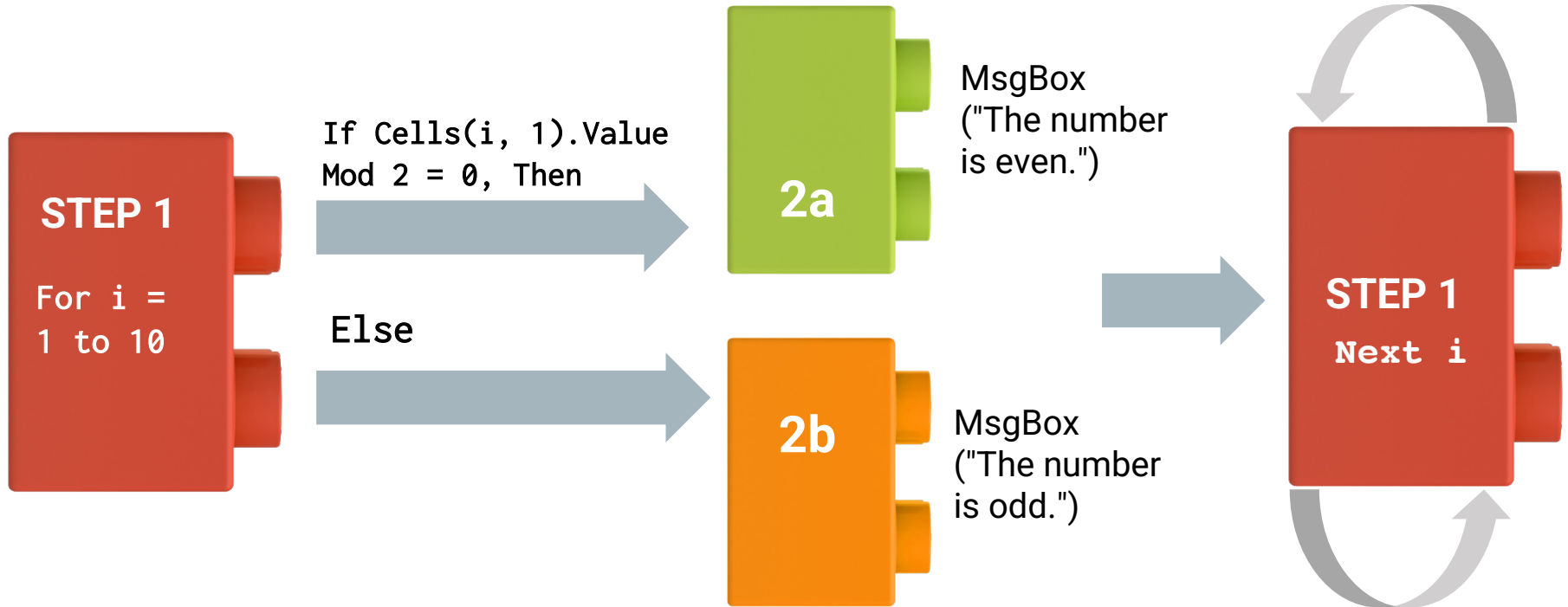
# Looped Conditionals



**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:



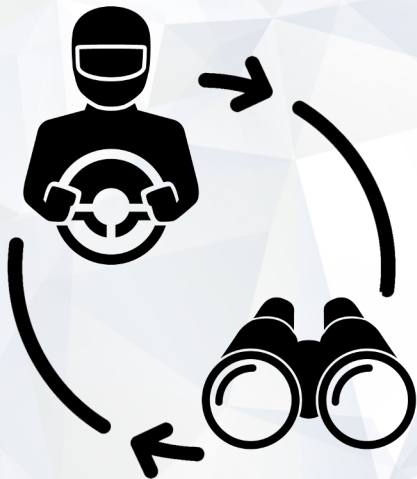
Where have we used this before?



How does this activity equip us for the Challenge?



What can we do if we don't completely understand this?



## 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**



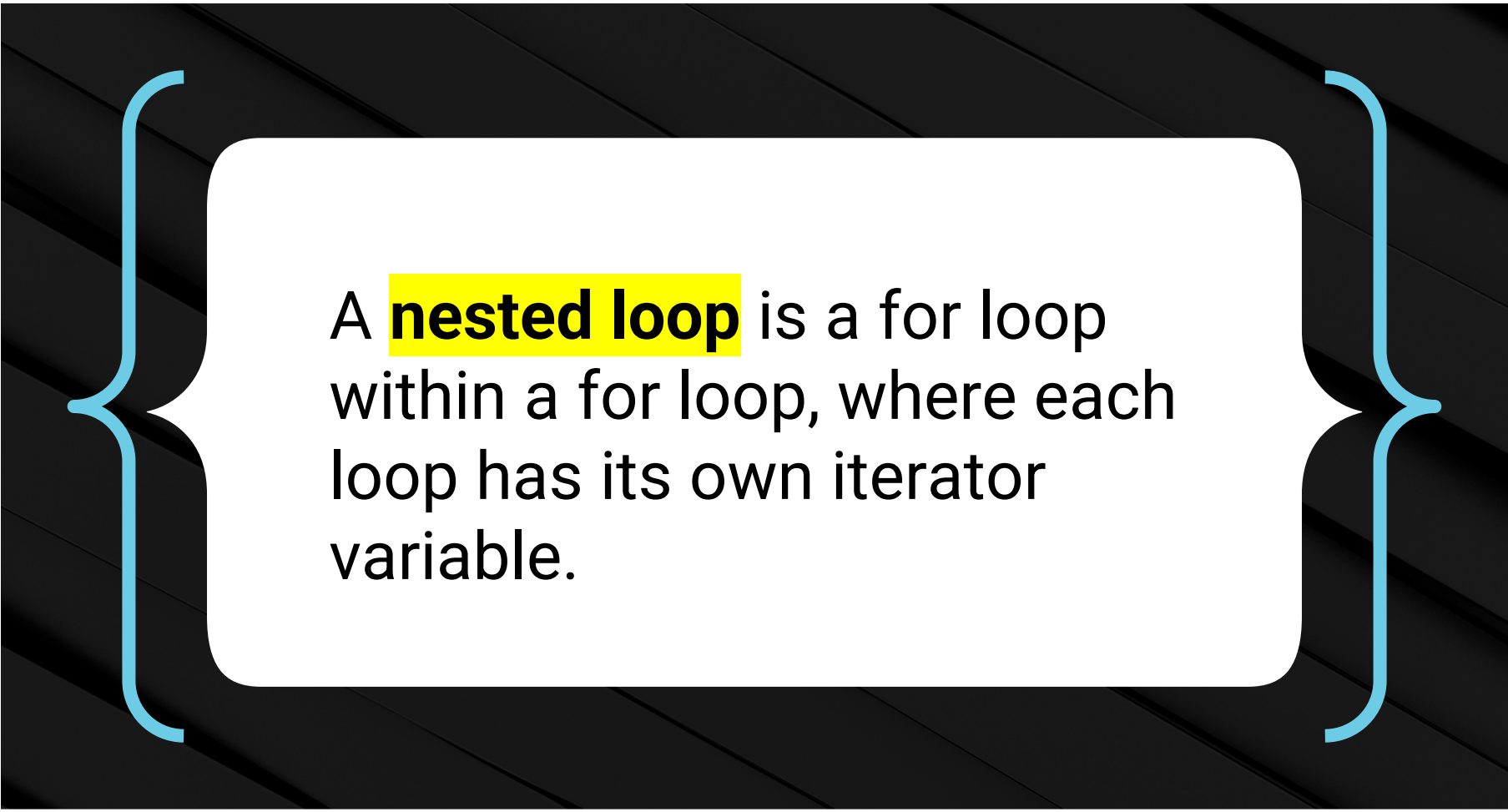


Time's Up! **Let's Review.**

# 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?



## 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?



# 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:

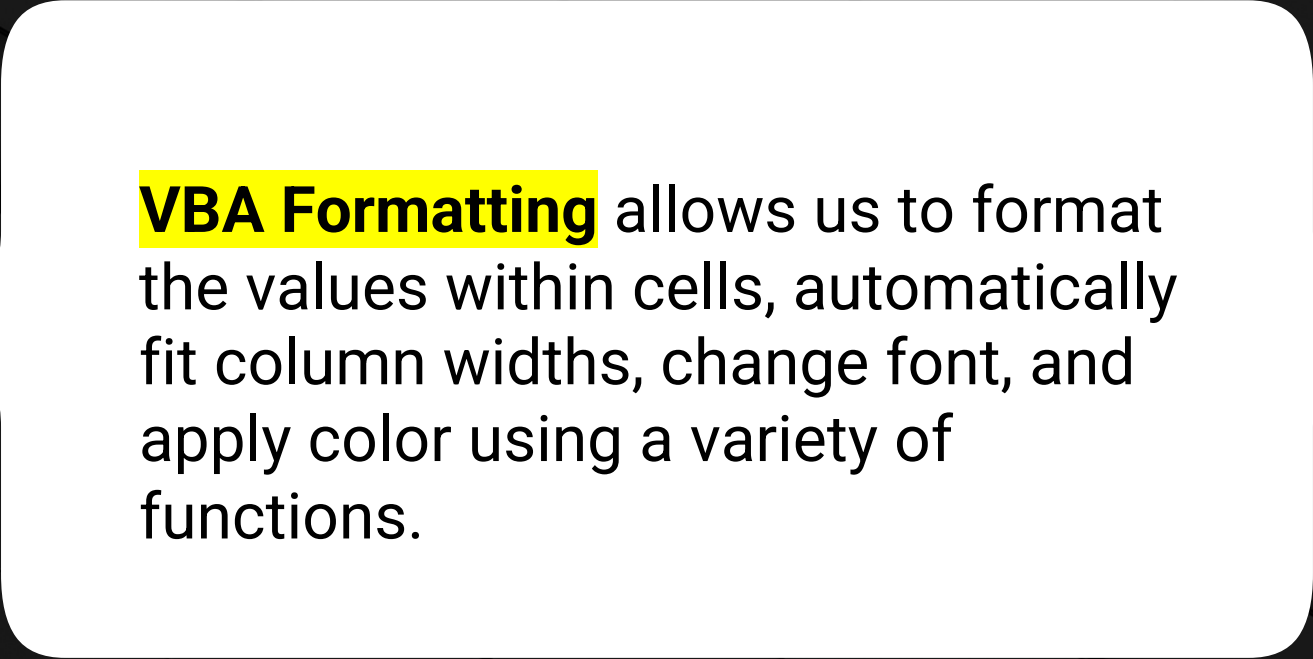
15 minutes

# 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.**

# VBA Class Review

---

In today's class, you learned the following skills:

01

Conditional statements and for loops

**Lesson 2.2.3**

02

Nested for loops

**Lesson 2.3.2**

03

Adding color to cells using conditionals

**Lesson 2.4.2**

04

Form control buttons

**Lesson 2.5.1**

**By Next Class: Install Python and VS Code (Lesson 3.1.\*)  
Complete up to Lesson 3.2.7**

# Questions?

