

# Week 1 Demo: Interactive Workflow

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## Introduction

This demo showcases the interactive workflow for ECON 2B03.

- Webexercises: Fill-in-the-blank, multiple choice, true/false
  - Quarto-Quiz: Interactive multiple choice with check button
  - Master-Only Content: Hidden cues for the instructor
  - Placeholders: Slido & Microsoft Forms
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## Webexercises Demo

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### Fill-in-the-blank

Create fill-in-the-blank questions using `fitb()`.

- $2 + 2$  is \_

```
x <- sample(2:8, 1)
```

- The square root of 64 is: \_
- What is the letter after D? \_

Students see instant feedback: green for correct, red for incorrect.

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### Multiple choice

- Which is a measure of central tendency?
- (A) Variance
- (B) Mean
- (C) Range
- "Never gonna give you up, never gonna:
- (A) let you go

- (B) turn you down
- (C) run away
- (D) let you down

”

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## True or false

- True or False? You can permute values in a vector using `sample()`. TRUE / FALSE
  - True or False? The mean is always greater than the median. TRUE / FALSE
- 

## Longer MCQs

What is a p-value?

```
opts_p <- c(
  "the probability that the null hypothesis is true",
  answer = "the probability of the observed, or more extreme, data, under the
  assumption that the null-hypothesis is true",
  "the probability of making an error in your conclusion"
)
```

- (A) the probability that the null hypothesis is true
  - (B) the probability of the observed, or more extreme, data, under the assumption that the null-hypothesis is true
  - (C) the probability of making an error in your conclusion
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## Quarto-Quiz Demo

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### Quarto-Quiz (Quick Check)

Which statement is true?

- The mean is always the median
  - A symmetric distribution has mean = median
  - Variance can be negative
  - A sample is always the full population
- 

### Quarto-Quiz (Multi-Select)

Select all that apply.

- The mean is a measure of central tendency
- The median is robust to outliers

- Variance can be negative
  - The standard deviation is the square root of variance
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### Quarto-Quiz (True/False)

The sample mean is an unbiased estimator of the population mean.

- True
  - False
- 

### Quarto-Quiz (Single Choice)

Which term refers to the most frequent value?

- Mean
  - Median
  - Variance
  - Mode
- 

### Quarto-Quiz (Ordering)

Order these steps for a basic hypothesis test.

1. State the null and alternative hypotheses
  2. Choose a significance level
  3. Compute the test statistic
  4. Compare to a critical value (or compute a p-value)
  5. Draw a conclusion
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### Quarto-Quiz Demo

Which probability distribution is symmetric?

- Chi-square
- F-distribution
- Normal distribution
- Exponential

 Wait 2 minutes | Teaching Cue: Ask for examples of real-world normal distributions.

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### Slido Placeholder

Vote Here

(Slido Embed Placeholder) [Link to poll](#)

Live Results

*(Slido Results Placeholder)*

● ACTIVATE POLL #1 NOW

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## Forms Placeholder

Participation Credit

Due Today by 11:59 PM

[Microsoft Forms Placeholder Link](#)

*(QR Code Image Placeholder)*

Enter the secret code from today's lecture: NORMAL

Ensure form is open and accepting responses.