Lecture Prep: Learn Git Branching

Git practice for Lab 5

Learn Git Branching is a game in your browser. You type real git commands, and a drawing of the history changes as you do. It's how you'll see what a command *does*, not just what to type.

Why. In Lab 5, git is how your work gets to us, and it's half of what the lab teaches. You'll commit after every working step, and look back with `git show HEAD~1`. At the check-in, the Git question is always asked.

The game is spread across Labs 5–7, a few levels per lab, matched to that lab's git. These are Lab 5's.

The assignment

About 30 minutes. Do the six levels below, in order.

Do it without AI. The point is for these commands to be in your fingers, not in a chat window.

Not graded. But Lab 5 assumes you've done them, and so does its check-in.

1. Start the game

1. Open **https://learngitbranching.js.org** in any browser. No account, nothing to install.
2. Close the welcome box.
3. Every level name in the table below is a link that opens that level directly. To find one yourself instead, type `levels` and pick it from the menu, which has two tabs; these are all on **Main**.

2. The levels

Do them in this order. The level numbers skip on purpose: these are the ones Lab 5 uses.

Menu location	Level	Why it matters for Lab 5
Introduction Sequence — Level 1	Introduction to Git Commits	what a commit is
Moving and Staging Work — Level 3	The Staging Area	`git add` chooses what goes into the next commit
Moving and Staging Work — Level 4	Undoing with git restore	taking a change back before you commit it
Ramping Up — Level 1	Detach yo' HEAD	what `HEAD` is: where you are right now
Ramping Up — Level 2	Relative Refs (^)	`HEAD^`: the commit before this one
Ramping Up — Level 3	Relative Refs #2 (~)	`HEAD~1`, `HEAD~3`: you'll use these in Lab 5, and at the check-in

3. Commands the game understands

Besides git itself:

Command	What it does
`objective`	Shows this level's instructions again.
`show goal`	Shows the history you're aiming for. Compare it with yours.
`hint`	A nudge. Try this before anything below it.
`undo`	Takes back your last command.
`reset`	Starts this level over.
`levels`	Back to the menu.
`show solution`	Gives the answer away. Only after you've really tried, and then redo the level without it.

4. Tips

- **Predict, then press Enter.** Before each command, say what you think the drawing will do. Being wrong is how the game teaches.
- **Watch `HEAD`.** It's the marker for where you are, and most surprises are about where it moved.
- **Fewer commands is better, but not required.** The game shows the shortest solution it knows at the end. Passing in more steps still counts.

5. Your progress

Your progress is saved in your browser's Local Storage, the same place Wordle keeps your board. So use the same browser on the same computer each time. A private window, or a different laptop, starts you from scratch.

Coming next

Lab 6: branching and merging, from the same Main tab. Lab 7: the **Remote** tab, which is how your codespace and GitHub stay in sync.