

# CSE 403

Software Engineering

**Automated Software Testing**

# Today

- Recap the Git bisect exercise
- Test automation: UI testing and mock-based testing

# Recap: git bisect exercise

## Basic Statistics

Basic Statistics is a Java-based GUI program that computes statistics on a set of numbers. This implementation is intended to be used in a [git bisect exercise](#).

### How to build Basic Statistics and run its tests from the terminal:

Run these commands from the Basic Statistics root directory, which contains the *build.gradle* build file.

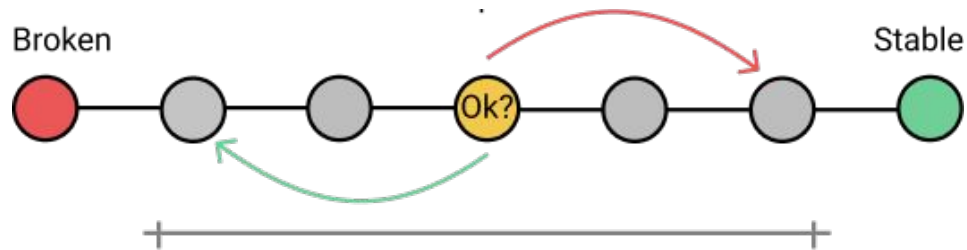
1. Run `./gradlew compileJava` to compile Basic Statistics.
2. Run `./gradlew build` to compile and run tests.
3. Run `./gradlew clean` whenever you want to clean up the project (i.e., delete all generated files).



The screenshot shows the Git documentation website. At the top, the Git logo and tagline "--fast-version-control" are visible. A search bar on the right contains the text "Type / to search entire site...". On the left, a navigation menu lists "About", "Documentation" (highlighted in red), "Reference", "Book" (highlighted in red), "Videos", and "External Links". Below this, there are sections for "Downloads" and "Community". The main content area is titled "7.10 Git Tools - Debugging with Git" and includes a sub-section "Debugging with Git". The text in this section states: "In addition to being primarily for version control, Git also provides a couple commands to help you debug your source code projects. Because Git is designed to handle nearly any type of content, these tools are pretty generic, but they can often help you hunt for a bug or culprit when things go wrong."

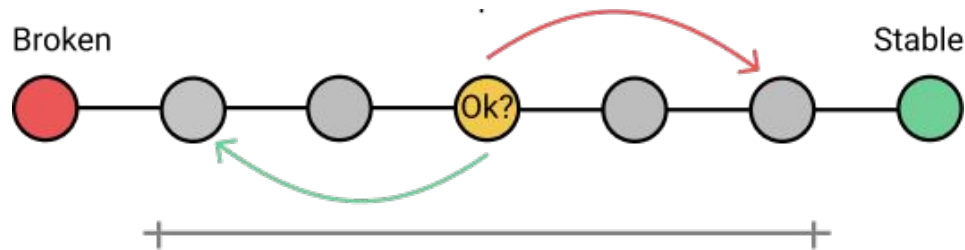
# Recap: git bisect exercise

- **Git bisect time complexity is always  $O(\log(n))$**

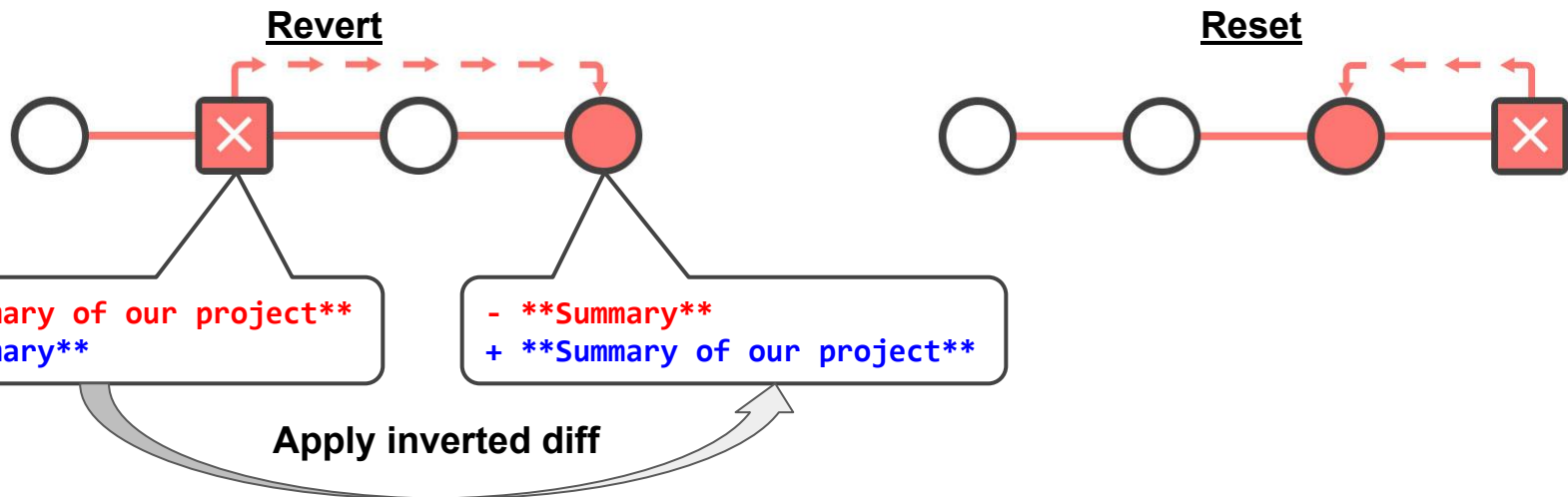


# Recap: git bisect exercise

- Git bisect time complexity is always  $O(\log(n))$

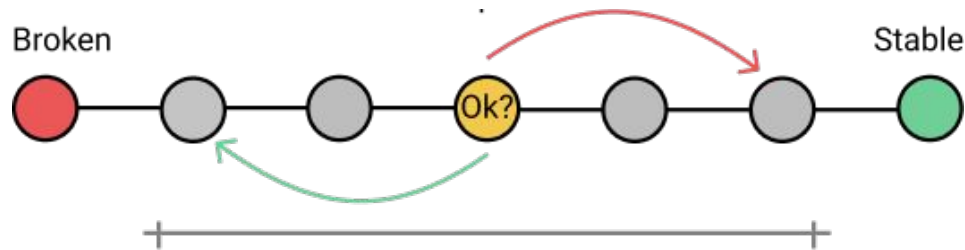


- Git revert vs. git reset



# Recap: git bisect exercise

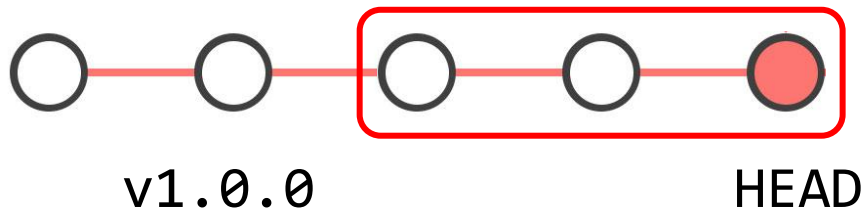
- Git bisect time complexity is always  $O(\log(n))$



- Git revert vs. git reset



- `git rev-list v1.0.0..HEAD` (or `HEAD ^v1.0.0`)



Automated Software Testing: webdriver

<https://github.com/rjust/testing-ui>

# Automated Software Testing: mocking

<https://github.com/rjust/testing-mock>