Development Workflow

OR

How to Stop Worrying and Learn to Love the Code

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AGENDA

Lecture Approach

How to Develop

Tools

Workflow Demo

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Lecture Approach

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All Lectures are Remote

- Zoom
  - Please, turn on your cameras!
  - Raise hands or use chat for questions
    - ALT-Y to raise your hands
    - Spacebar to unmute
  - All lectures will be recorded
    - You can find them on Compass a few hours after lecture
- Schedule:
  - 12:45pm EST - I'll be here, say hi, ask questions, chat with me
  - 1:00pm EST - 3pm EST lecture
  - Approximately 2:00pm 10 minute break

Lecture Strategy

- Participate!
  - Ask questions
  - I will ask you questions
  - It helps to see your faces to gauge your understanding
- Live Coding
- Theory
- Occasional Breakouts

Do not try to code along!

What Are We Here To Learn

- Coding Skills
- Technologies
  - JavaScript
  - NodeJS
  - ExpressJS
  - Ruby on Rails
  - React
  - …
- Motivation
- Resilience
- Problem Solving
- Curiosity
- Communication
- Teamwork
- **How to Learn**

Advice

- Don’t compare yourself to others
- Don’t give up – take a break instead
- Be proactive
- Use the mentor queue
- Practice as often as you can
- Have reasonable expectations
- Help each other

This program is intense. The first weeks are intense. The intensity is normal.

Ian’s Note

I've taught hundreds of students, many of whom come from non-technical backgrounds. Becoming a software developer is a *life changing* move, and it's 100% achievable. With that being said, it's an incredible amount of work, and it will challenge you in ways that you don't expect.

Both a career in Software Development and this bootcamp program will make you uncomfortable. It's hard sometimes. It can feel isolating, overwhelming, it can make you feel like you are not good enough, and all of these feelings are normal - what is important is your persistence.

TOOLS

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VS Code

- VS Code Cheat Sheet

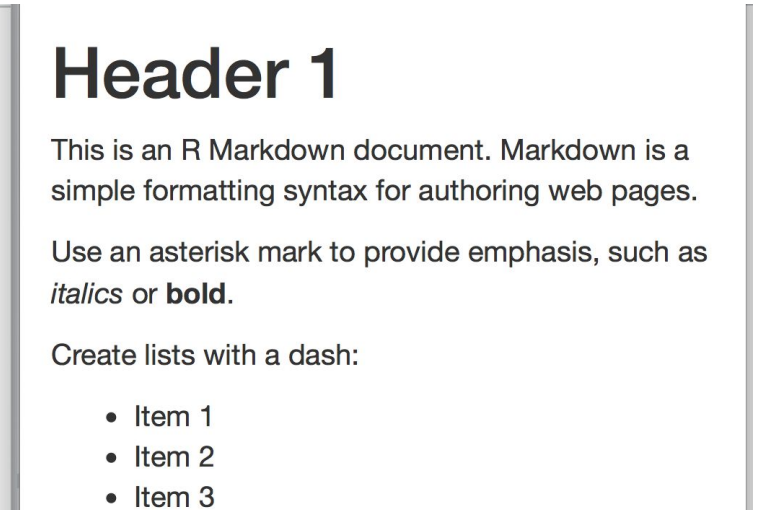
Useful Add-Ons:

- Linter (But not before week 4)
- Syntax highlighting for file types

Markdown

- Markdown CheatSheet
- Practice using markdown to make plans, and to take notes

```
1  # Header 1
2
3  This is an R Markdown document. Markdown is a
   simple formatting syntax for authoring webpages.
4
5  Use an asterisk mark to provide emphasis, such
   as *italics* or **bold**.
6
7  Create lists with a dash:
8
9  - Item 1
10 - Item 2
11 - Item 3
12
```



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- Item 1
- Item 2
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Version Control (git)

- What, Why git?

- Repositories (one repo per projects)
- Track a versioned history of your code
  - Commit
  - Branches
  - Tags
- Code backed up on github, gitlab, etc
- To facilitate collaboration with teams

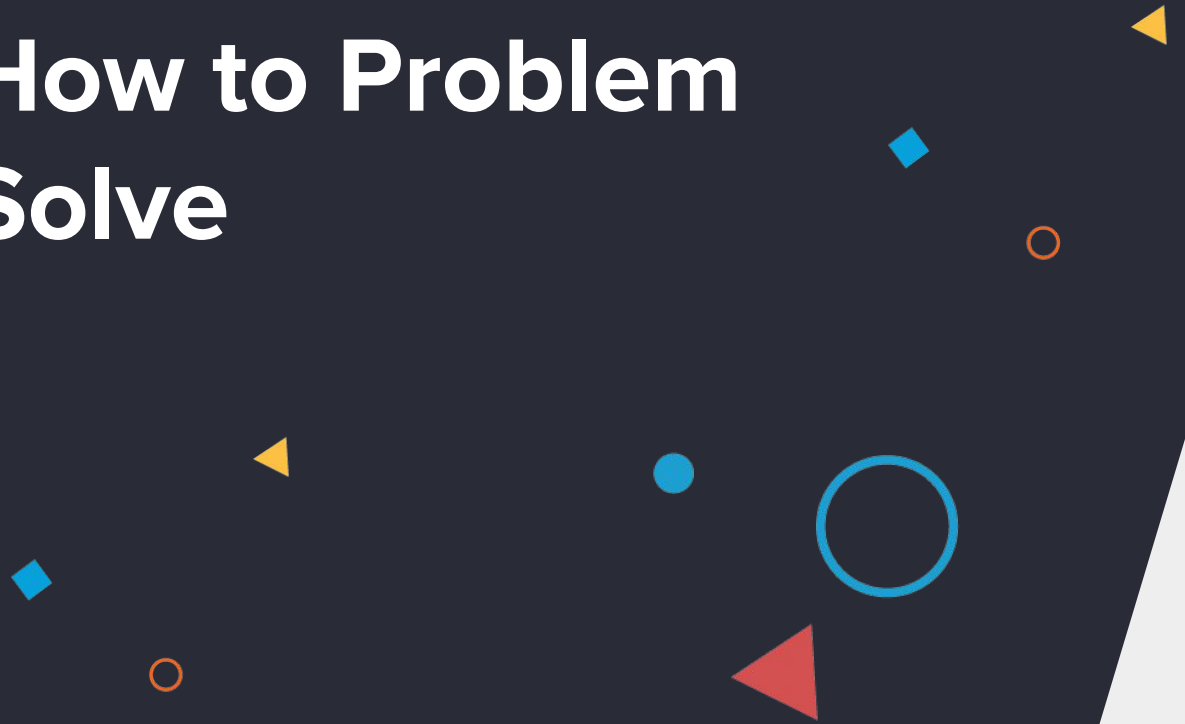
`git` Workflow

1. Add files to staging area
2. Create commit of changes in staging area
3. Push commits to centralized repository

`git` Commands to Know

```
$ git status
$ git add [.|-p]
$ git commit -m “message”
$ git remote -v
$ git remote add [origin]
$ git remote rm [origin]
$ git push
$ git pull
$ git log
```

How to Problem Solve



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Incremental Development

- Define your intention
  - Make a plan!
  - Pseudo code
- Implement your plan
  - Translate pseudo code into real code
- Test your code
  - Manually or automatically
- Repeat

Decomposition

- Every problem is made up of easier sub problems
- It is a skill to learn how to decompose problems in this way

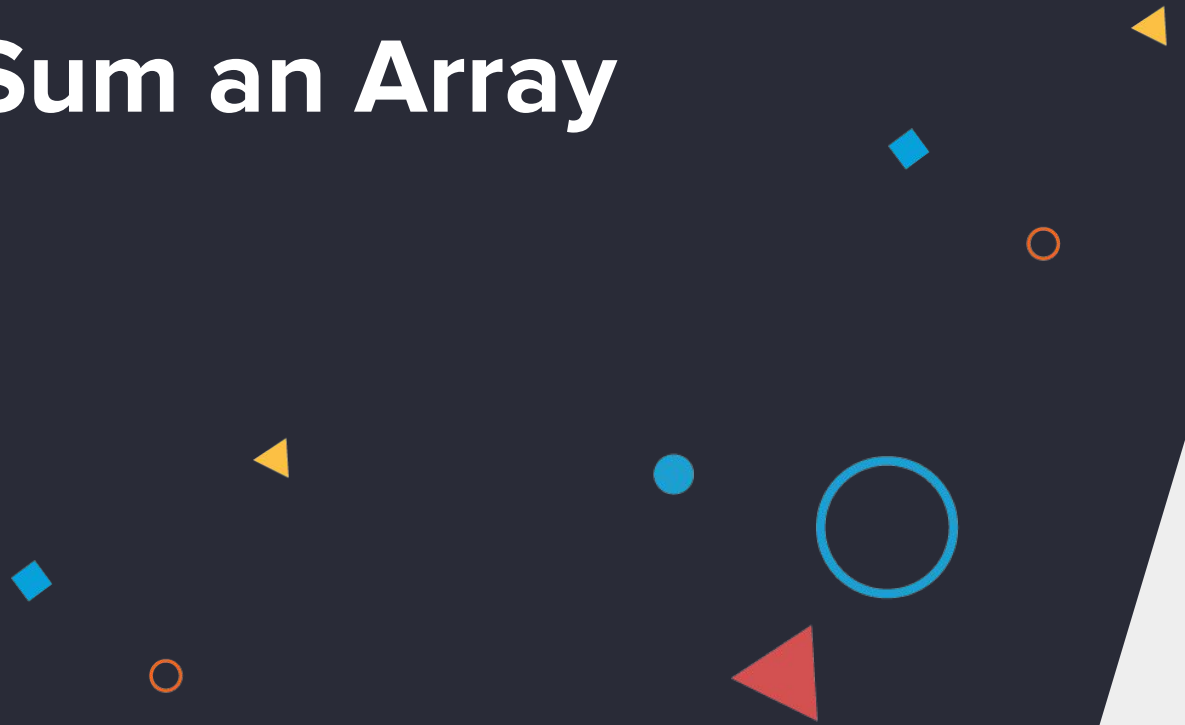
Error Driven Development

- Learning to read errors is critical to development
- When you have a problem, your first step should be to read your terminal
- Error messages point you to **where** your error is as well as **what** your error is

Refactoring

- Once you have successfully implemented a solution to your problem, refactor
- Refactoring is re-organizing your code with various considerations in mind
  - Reusability
  - DRY
  - Testability
  - Simplicity
  - Maintainability

Sum an Array



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Demo

Questions?

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