LET'S GET EVERYTHING SET UP!

1. In Schoology, go to: **Courses(in the top menu) > FEWD CHI 1: Section 1**
2. Then go to the **Class Materials** folder — it's the pink one!
3. Navigate to the **Week 3 (It's the yellow folder) > Lesson 6 folder**
4. There you'll find links to the Codepen exercises we'll be working on today
5. Keep this page open so that you can find these links during class
6. Download the slides (or open them in Schoology) if you'd like!

GENERAL ASSEMBLY

PSEUDO CODE

Sarah Holden

LEARNING OBJECTIVES

- Practice programmatic thinking by writing pseudo code to solve a basic problem.
- Define web site behavior and the practical uses of JavaScript.
- Predict DOM output / changes by reading JS code.

AGENDA

- Intro to Programming
- Intro to JS
- Reading JS
- Lab

INTRO TO PROGRAMMING

PROGRAMMING

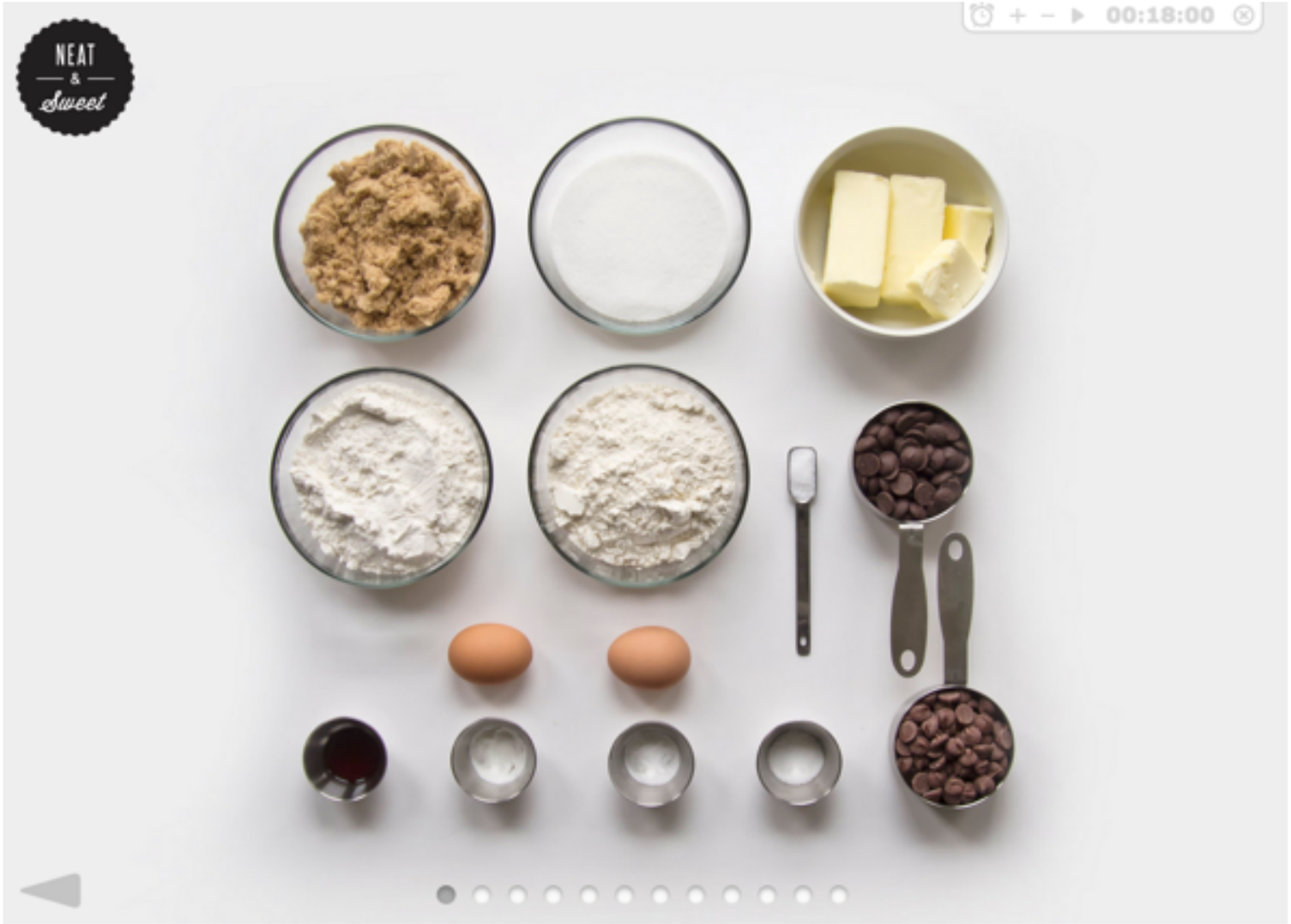
WHAT IS A PROGRAM?

- A program is a set of instructions that you write to tell a computer what to do

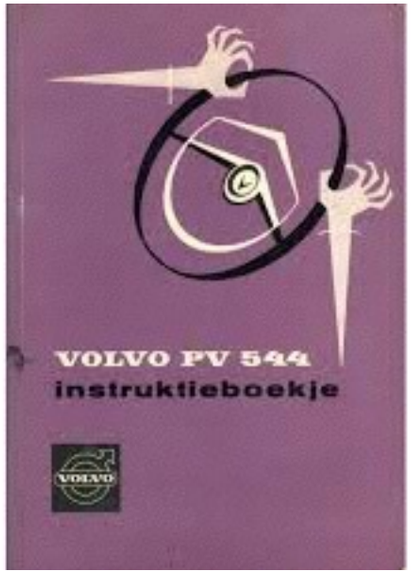
WHAT IS PROGRAMMING?

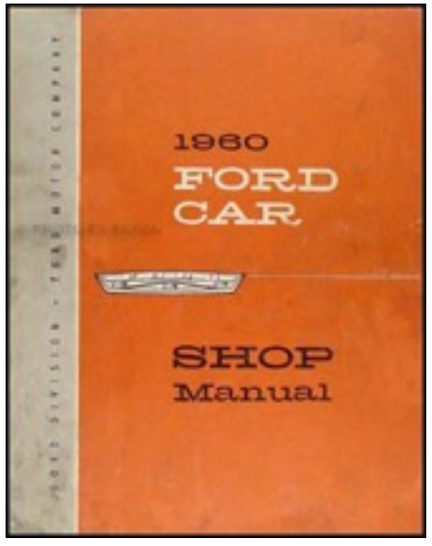
- Programming is the task of writing those instructions in a language that the computer can understand.

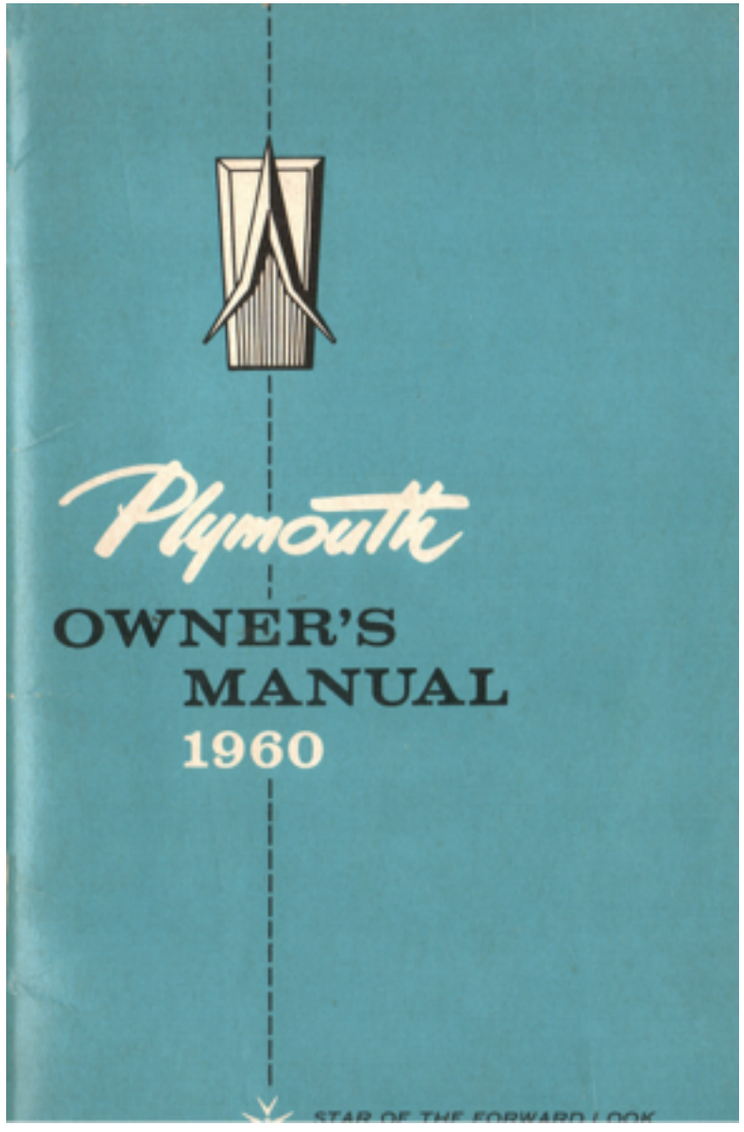
WHAT IS A PROGRAM?



WHAT IS A PROGRAM?







It isn't about the programming language!!!
It is about changing how you think.

We have to know how the computer thinks to change how we think.

HOW COMPUTERS 'THINK'

- The short answer is that they don’t think.
- The slightly longer answer is that while computers don’t think, they act as if they do, by sequentially executing simple instructions.
- The only things a computer knows are the things we tell it.
- A computer doesn't learn to perform tasks like you and I — it needs to follow instructions every time it performs the task.

PSEUDO CODE

- When we write a program, we need to figure out a way to translate the ideas that are in our heads into code
- Pseudo code is a way to 'plan out' your program before coding it
- **Pseudo code** is a detailed yet readable description of what a computer program must do, expressed in plain english rather than in a programming language

THE IMPORTANCE OF PLANNING

Image credit: Minecraft HD Wallpapers

PSEUDO CODE — THERMOSTAT

Goal: *Write pseudo code for an application that would monitor the room temperature and adjust it so the room remains at a certain temperature.*

LAB — ROCK PAPER SCISSORS

LAB — ROCK PAPER SCISSORS

EXERCISE

KEY OBJECTIVE

- Practice programmatic thinking by writing pseudo code to solve a basic problem

TYPE OF EXERCISE

- Group of 3-4

TIMING

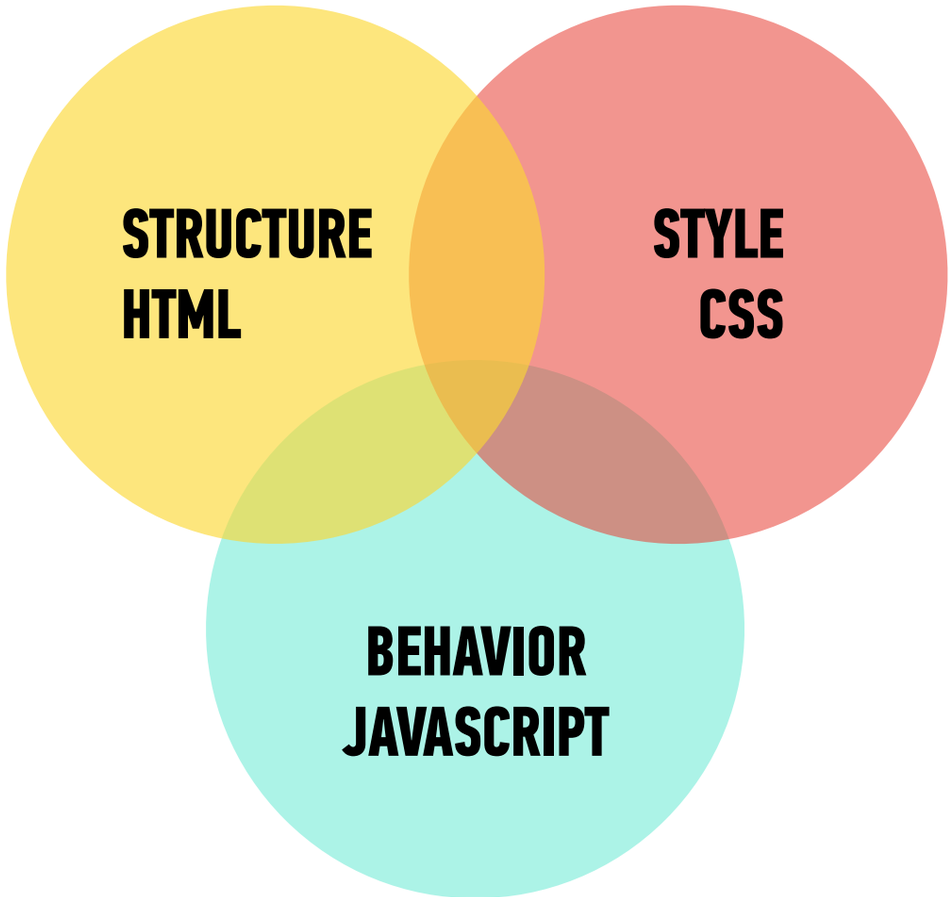
30 min

1. Write pseudo code to program a computer to play the game 'rock paper scissors'
2. Write each line of instruction onto a post it
3. Put the post its in order to form the program
4. If you finish early, walk around and view what other groups came up with

INTRO TO JS

THE THREE AMIGOS: STRUCTURE, STYLE, BEHAVIOR

- HTML = Noun
- CSS = Adjective
- Javascript = Verb



WHAT JAVASCRIPT CAN DO!

1. Access Content
2. Modify Content
3. Program Rules
4. React to Events

WHAT JAVASCRIPT CAN DO!

1. Access Content
2. Modify Content
3. Program Rules
4. React to Events

You can use JS to select any element, attribute or text from an HTML page.

For example:

- Select the text inside all the <p> elements on a page
- Select the element that has the id attribute with a value of **email**
- Find out what the user entered into a text input when they submit a form

WHAT JAVASCRIPT CAN DO!

1 Access Content

2 Modify Content

3 Program Rules

4 React to Events

You can use JS to add elements, attributes and text to the page (or remove them)

For example:

- Add an error message below a form
- Change the size, position, color, or other styles for an element
- Add or remove a class from elements to trigger new CSS rules for those elements

WHAT JAVASCRIPT CAN DO!

1 Access Content

2 Modify Content

3 Program Rules

4 React to Events

You can specify a set of steps (instructions) for the browser to follow.

For example:

- Have images/text fade in as the user scrolls down the page
- Check to make sure the user has entered a valid email address into a form and display an error message if not
- Open a chat panel when the user clicks on a 'Chat with Us' button
- Filter data when the user selects a filter

WHAT JAVASCRIPT CAN DO!

1 Access Content

2 Modify Content

3 Program Rules

4 React to Events

You can specify that a script should run when an event occurs

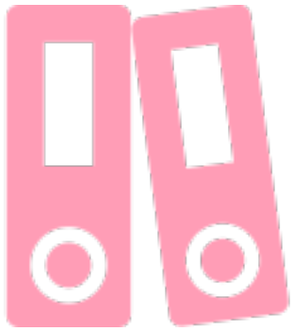
For example:

- When a button is clicked
- When the cursor hovers over an element
- When the user types information into a form
- When a page has finished loading
- When the user hits enter to submit a form

READING JS

READING JS

- When you are a child you learn to speak and read before you learn to write
- We learned to 'speak' JS with the discussion, video, and pseudo code



READING JS — COLOR SWITCHER WALK THROUGH

[Color Switcher CodePen]

LAB — TRAFFIC LIGHT

LAB — TRAFFIC LIGHT

EXERCISE

KEY OBJECTIVE

- Predict DOM output / changes by reading JS code.

TYPE OF EXERCISE

- Partner

TIMING

30 min

1. Take a look at the Traffic Light code in Codepen
2. The yellow button changes the bulb to purple and the green light does not work.
3. Make some minor changes to the code so that the traffic light works correctly.

LEARNING OBJECTIVES

- Practice programmatic thinking by writing pseudo code to solve a basic problem.
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HOMEWORK

HOMEWORK — READ BEFORE MONDAY

REQUIRED READING (BEFORE NEXT MONDAY):

If you purchased the textbook - Javascript & jQuery by Jon Duckett

- Introduction, Chapter 1, Chapter 2

Otherwise:

- Watch entire GA Front Row Video: What Can You Do With Javascript

OPTIONAL:

- Codeschool Javascript Roadtrip - Part 1
- Codecademy's Javascript track
- Finish Startup Matchmaker site
- Continue practicing HTML and CSS on Dash
- Start working on Final Project Part 1 — Proposal/Wireframes (Due Feb. 14th)

EXIT TICKETS