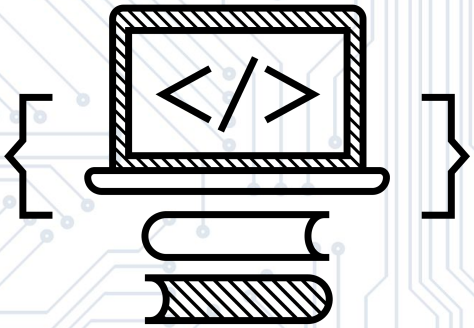
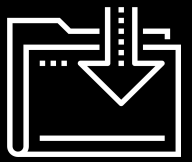


JavaScript Juggernauts

Web Development Boot Camp

Lesson 3.3

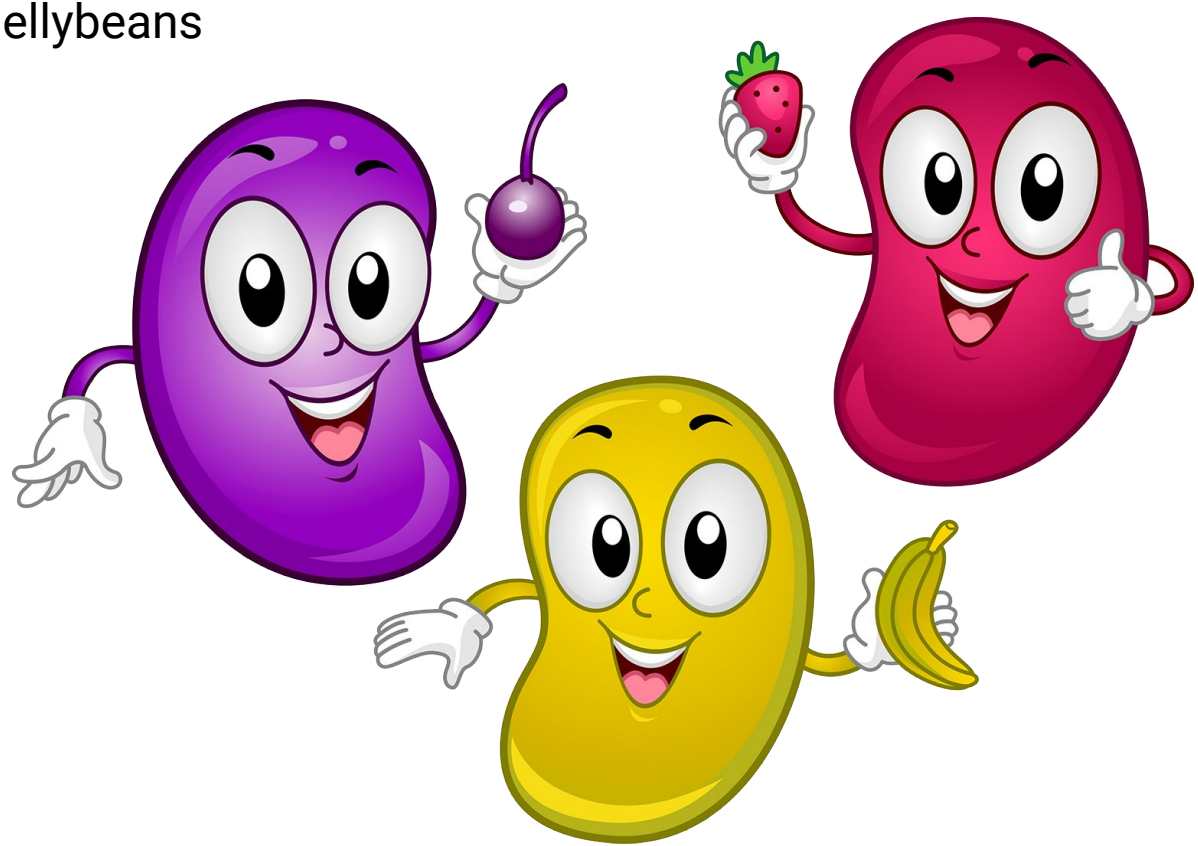


This Will Soon Be You

JavaScript Juggernauts

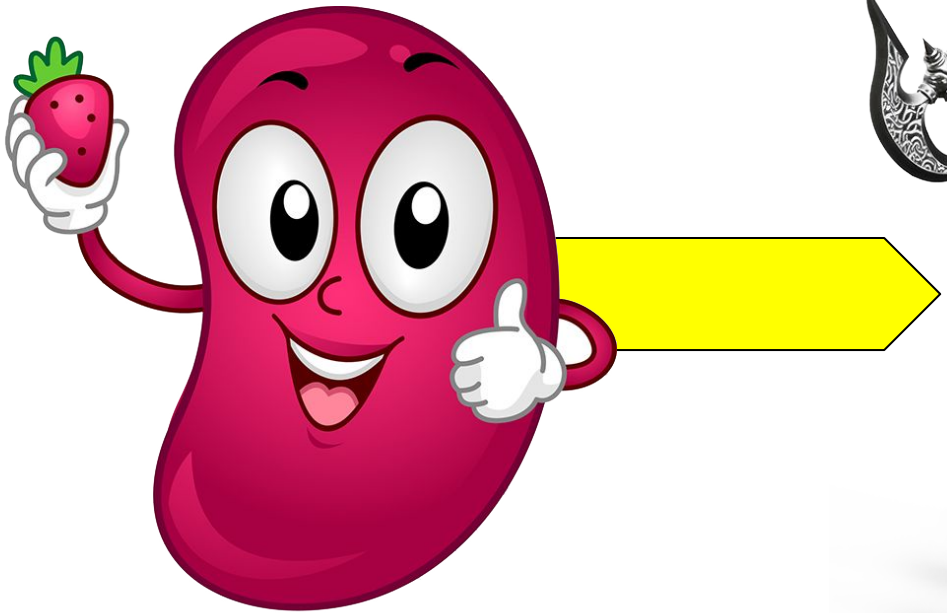
But Right Now You Feel Like

JavaScript Jellybeans



Transformation to Come!

HANG IN THERE!



Today’s Class

Objectives

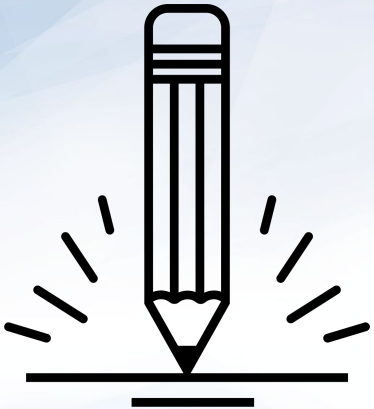
In today's class, we'll cover:

JavaScript Functions

JavaScript Objects

Building Simple JavaScript Applications

JavaScript Functions



Partner Activity:
Loop TV (Array Building)

Suggested Time:
10 minutes

Partner Activity: Array Building

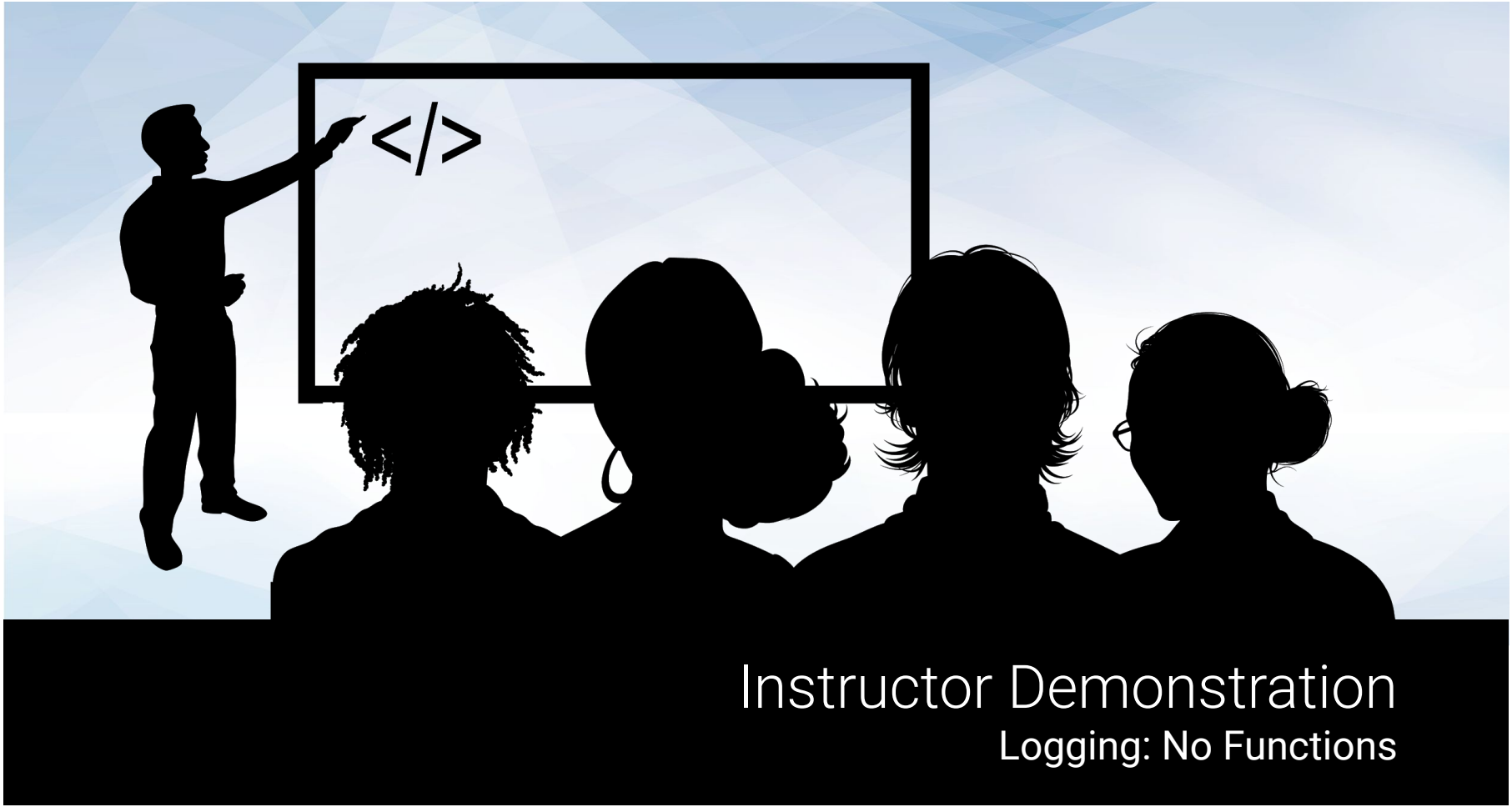
01 Run the program sent to you via Slack.

02 Then, with a partner, fill in the missing comments for each line of code.

03 Make sure both of you can fully explain what each line means.

04 Be prepared to share with the class.

Suggested Time: 10 minutes



Instructor Demonstration

Logging: No Functions

Mondo Repetitive

Who wants to maintain this?

Hint: No one.

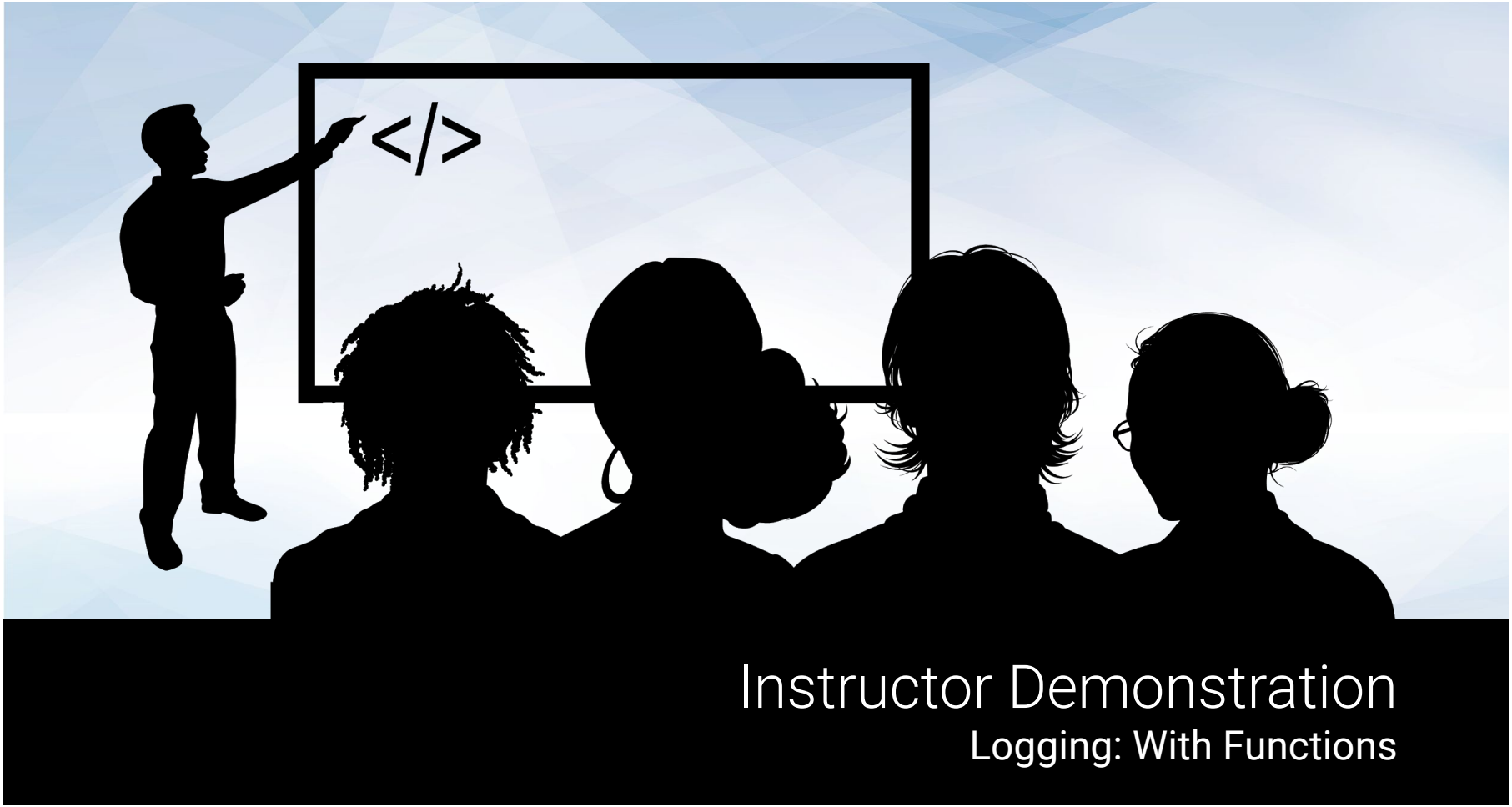
```
// For Loop for Brands
for (var i = 0; i < brands.length; i++) {
  console.log(brands[i]);
}
console.log("---------");

// For Loop for Heroes
for (var i = 0; i < heroes.length; i++) {
  console.log(heroes[i]);
}
console.log("---------");

// For Loop for booksOnMyShelf
for (var i = 0; i < booksOnMyShelf.length; i++) {
  console.log(booksOnMyShelf[i]);
}
console.log("---------");

// For Loop for thingsInFrontOfMe
for (var i = 0; i < thingsInFrontOfMe.length; i++) {
  console.log(thingsInFrontOfMe[i]);
}
console.log("---------");

// For Loop for howIFeel
for (var i = 0; i < howIFeel.length; i++) {
  console.log(howIFeel[i]);
}
console.log("---------");
```



Instructor Demonstration

Logging: With Functions

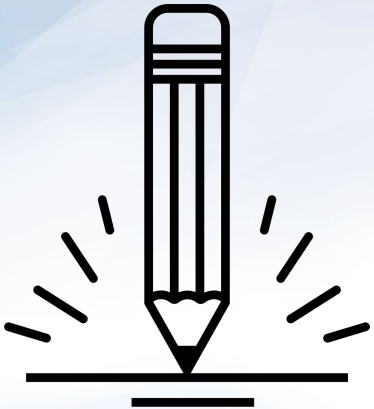
Much Better with Functions!

Squeaky clean code. Minimal repetition.

```
// Here we create a "Function" that allows us to "call" (run) the loop for any array we wish.
// We pass in an array as an "argument".
function consoleInside(arr) {

  // We then loop through the selected array.
  for (var i = 0; i < arr.length; i++) {

    // Each time we print the value inside the array.
    console.log(arr[i]);
  }
  console.log("---------");
}
```



Partner Activity:
My First Functions

Suggested Time:
20 minutes

Partner Activity: My First Functions

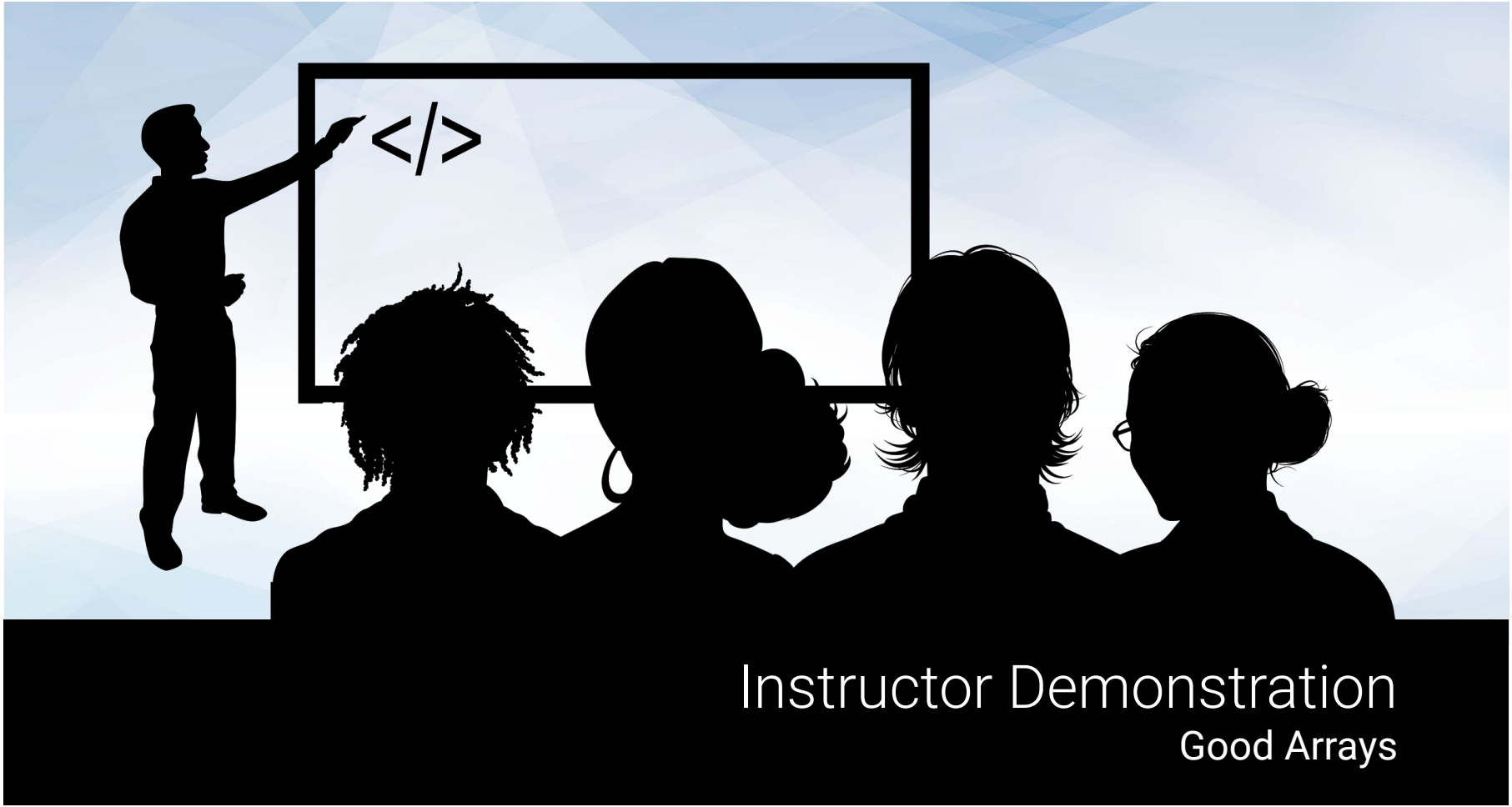
Working in pairs and using the starter file sent to you via Slack, fill in the missing functions and function calls.

Note: Try to finish all four functions if you can, but don't be distressed if you only get 1 or 2. The important thing is that you get at least one function fully done.

HINT: Look back to the previous example if you need help.

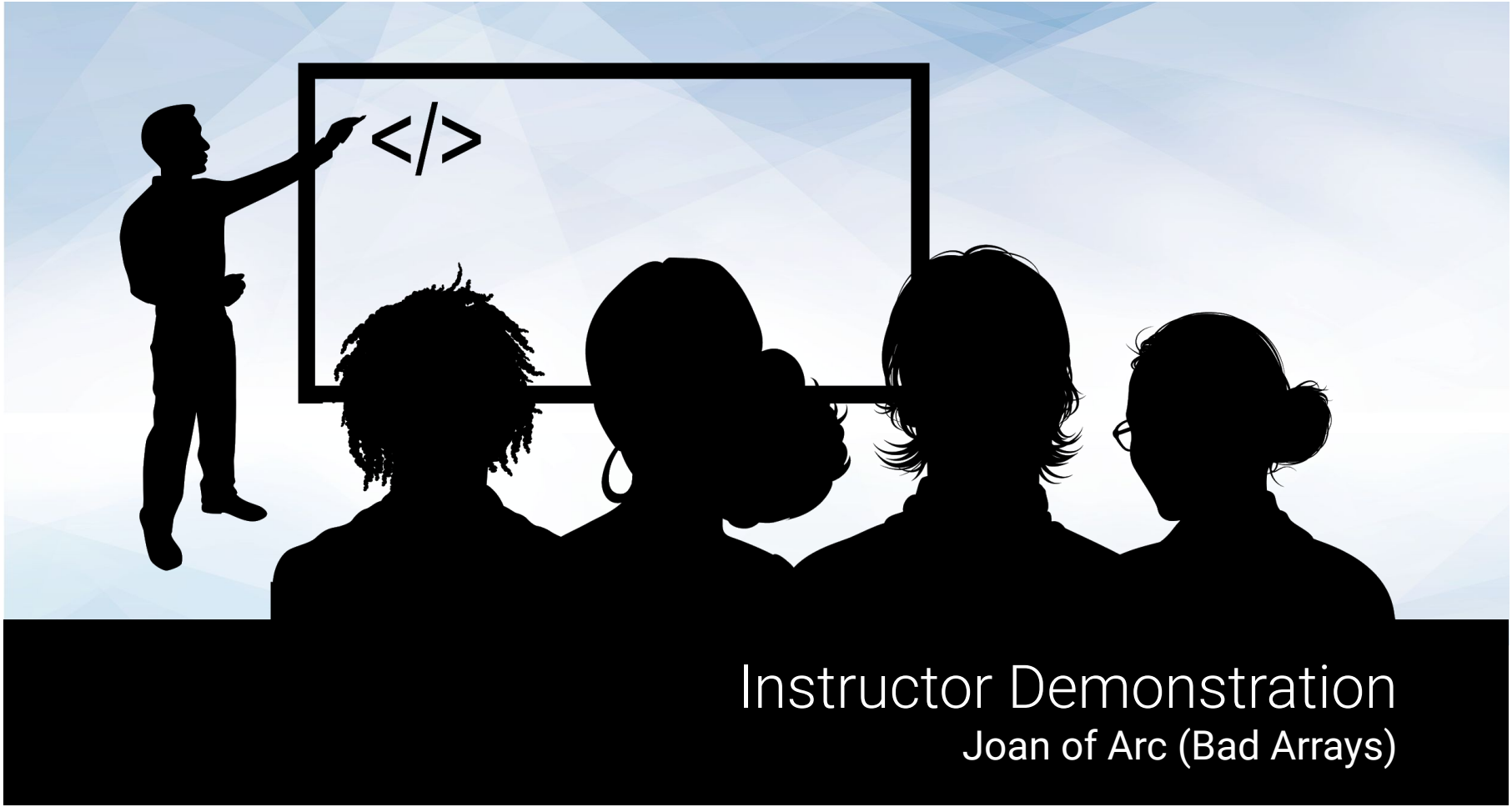
Suggested Time: 20 minutes

JavaScript Objects



Instructor Demonstration

Good Arrays

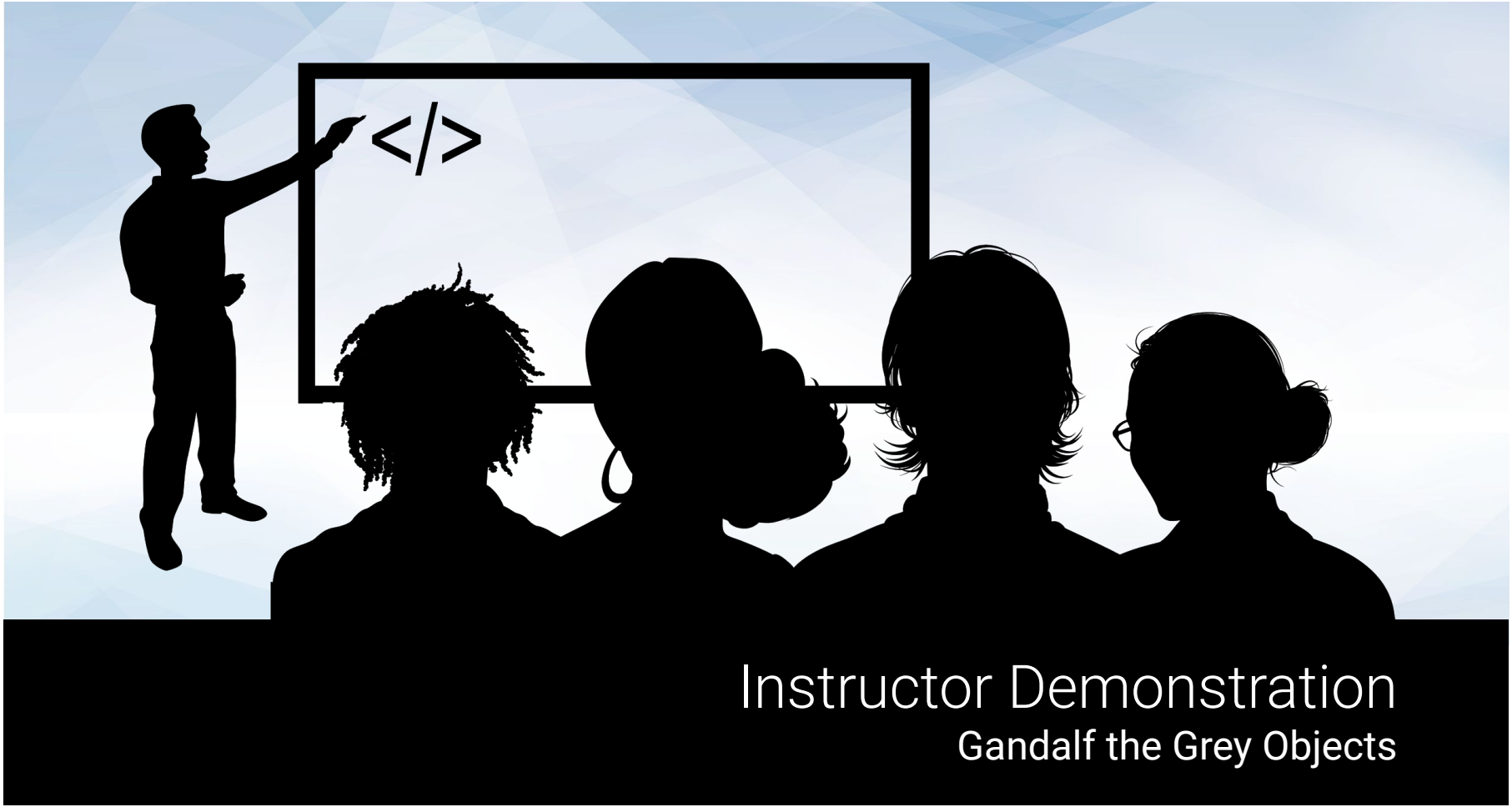

Instructor Demonstration
Joan of Arc (Bad Arrays)

Associated Data ==/== Arrays

Relating two separate arrays is not fun.

```
var joanOfArcInfoParts = ["Real Name", "Grew Up Where", "Known For", "Scars", "Symbolism"];


var joanOfArcInfoValues = ["Jehanne la Pucelle.", "Domremy, a village in northeastern France.",
  "Peasant girl, daughter of a farmer, who rose to become Commander of the French army.",
  "Took an arrow to the shoulder and a crossbow bolt to the thigh while trying to liberate Paris.",
  "Stands for French unity and nationalism."];
```



Instructor Demonstration

Gandalf the Grey Objects

Gandalf: The Object

Gandalf's **properties** and **values** are associated in object form, making it easy to recall specific data.

```
var gandalf = {
  "real name": "Gandalf",
  "age (est)": 11000,
  "race": "Maia",
  "haveRetirementPlan": true,
  "aliases": [
    "Greyhame",
    "Stormcrow",
    "Mithrandir",
    "Gandalf the Grey",
    "Gandalf the White"
  ]
}

// Object properties can be accessed with "bracket notation"
alert("My name is " + gandalf["real name"]);

// Or with "dot notation" if the property has no spaces
if (gandalf.haveRetirementPlan) {

  // Or with a variable that matches the name of the property
  var ageProperty = "age (est)";
  var years = gandalf[ageProperty];
  alert("My 401k has been gathering interest for " + years + " years!");
}
```

Objects Visualized

This is Gandalf. According to code, Gandalf is an **object**.

```
var gandalf = {
    “real name” : “Gandalf” ,
    “age (est)” : 11000 ,
    “race” : “Maia”
}
```

Objects Visualized

These are Gandalf's **properties** (like descriptors).

```
var gandalf = {
    "real name" : "Gandalf" ,
    "age (est)" : 11000 ,
    "race" : "Maia"
}
```

Objects Visualized

These are the **values** of Gandalf's properties.

var gandalf	=	{

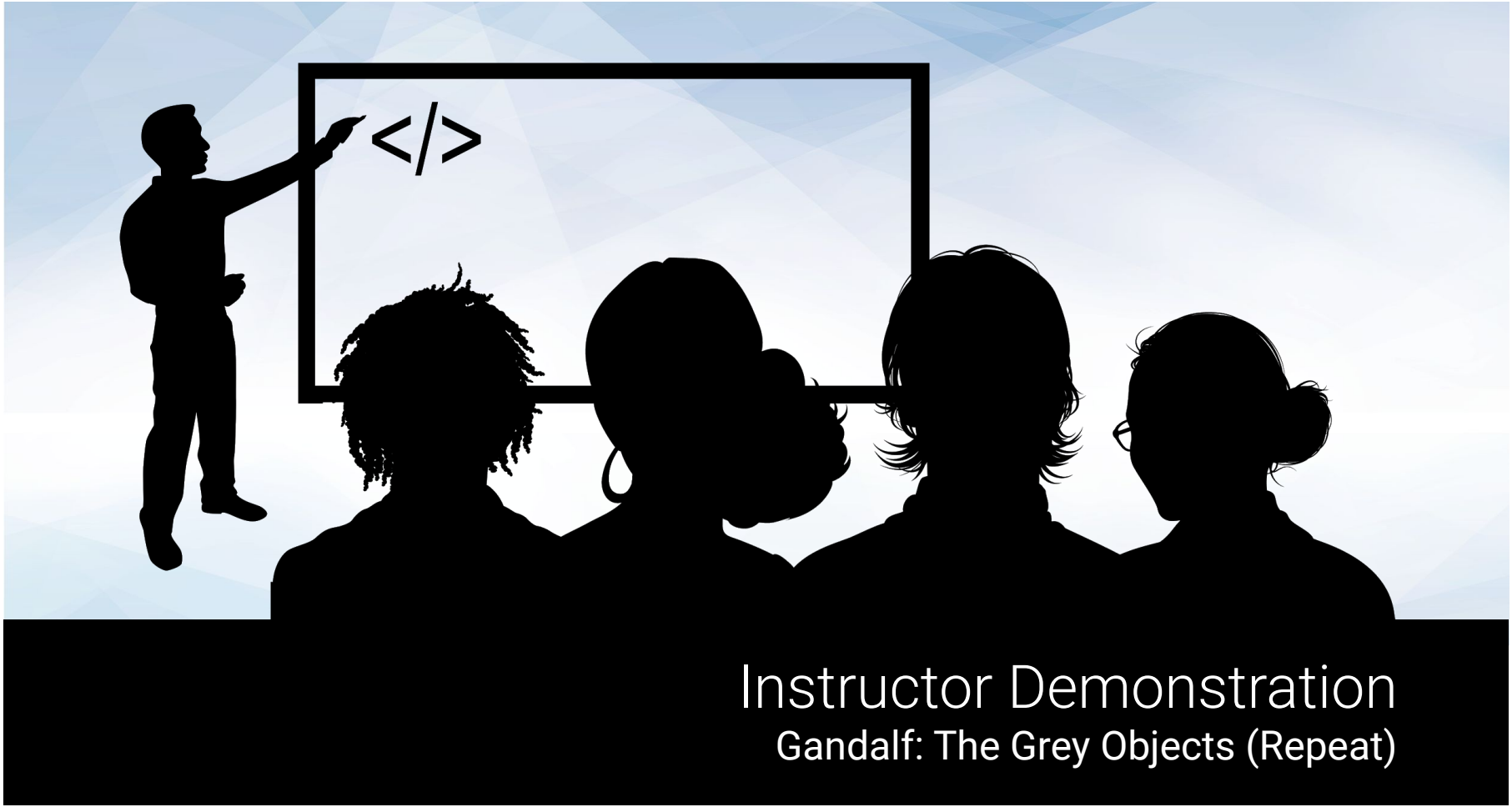
"real name"	:	"Gandalf"	,
"age (est)"	:	11000	,
"race"	:	"Maia"	

}

Objects Visualized

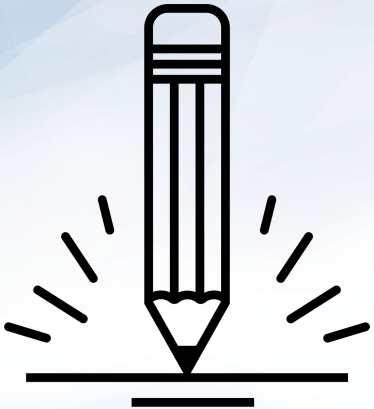
Thus: `gandalf["race"] = "Maia"`

```
var gandalf = {
    "real name" : "Gandalf" ,
    "age (est)" : 11000 ,
    "race" : "Maia"
}
```



Instructor Demonstration

Gandalf: The Grey Objects (Repeat)



Group Activity (2 people)**:** Basic Objects

Suggested Time:
15 minutes

Group Activity: Basic Objects

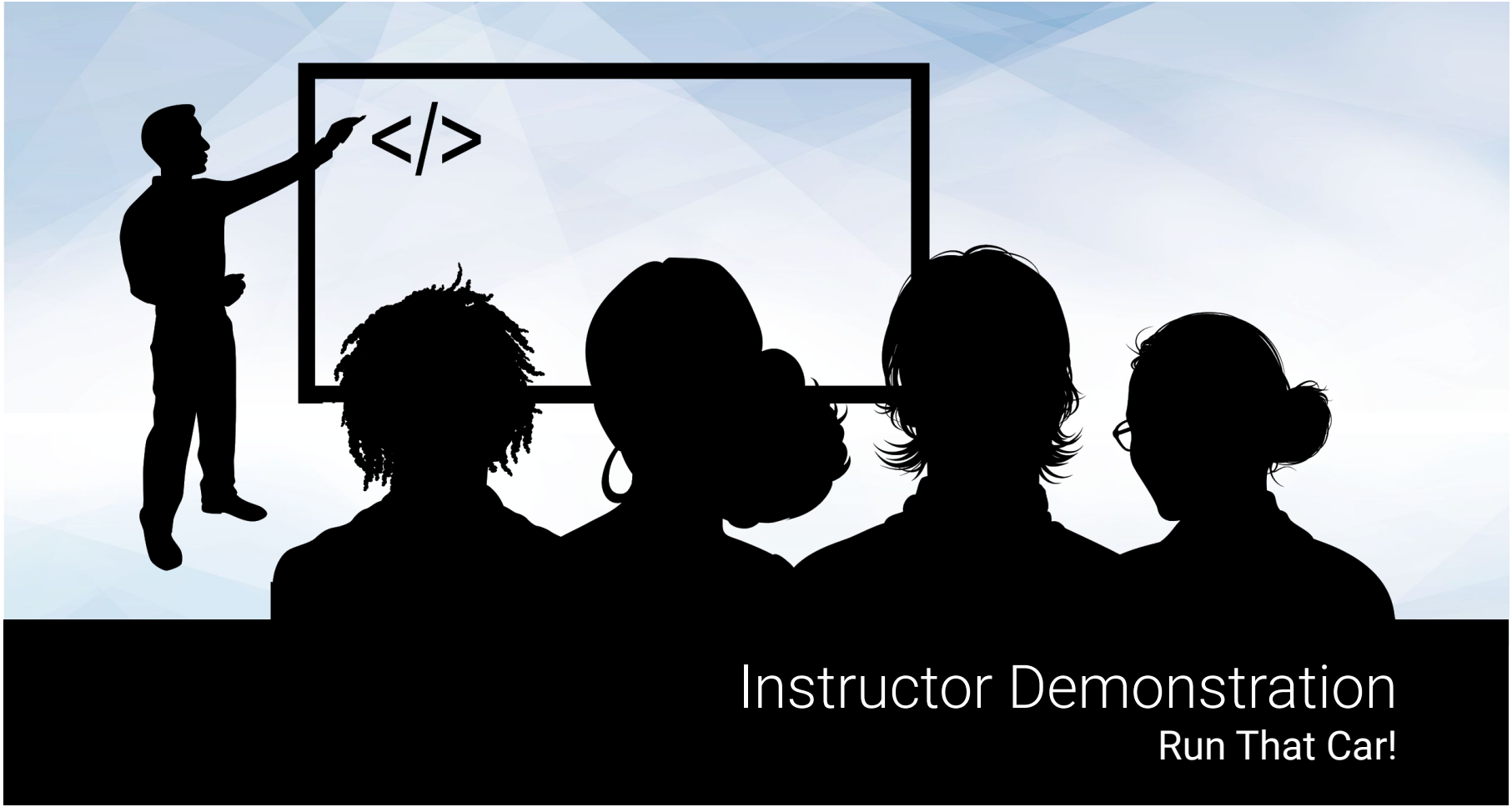
With a partner, spend the next few moments studying the code just slacked to you.

Then, write code below each comment to log the relevant information about the provided `car` object.

Bonus: If you finish early, create a brand new object of your own. Slack out a snippet of the code to the class when you are done. Be Creative!

Suggested Time: 15 minutes

Take a Break!



Instructor Demonstration

Run That Car!

Challenge: Run That Car!

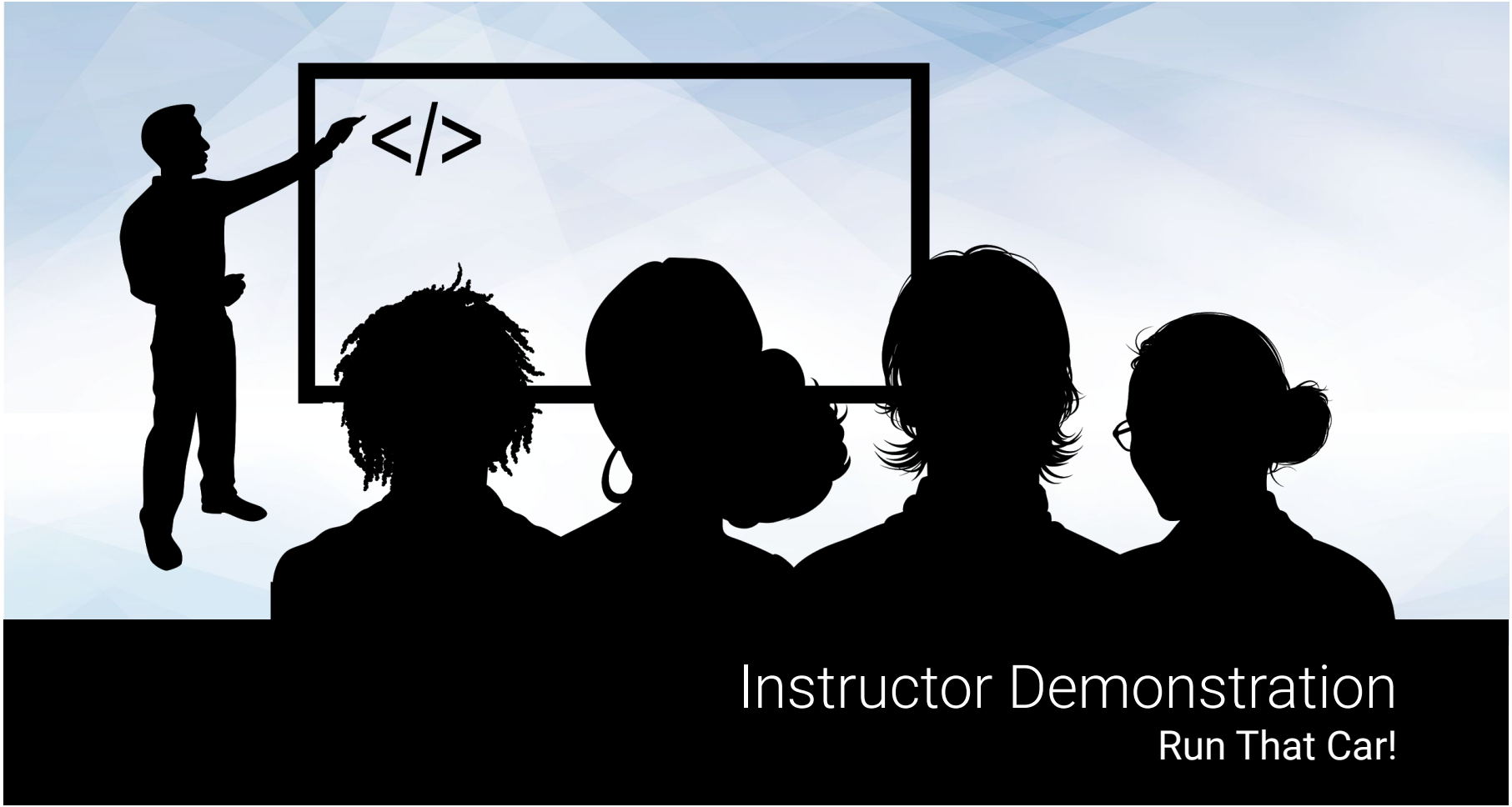
Suggested Time:
30 minutes

Challenge: Run That Car!

Using the code from the previous activity as a starting point, create a complete application such that:

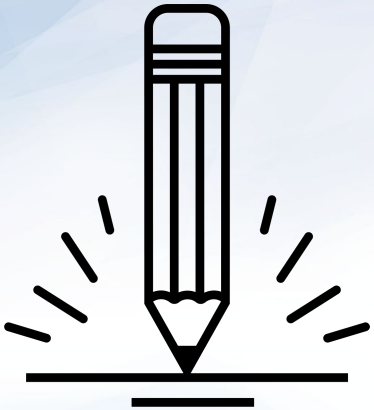
- Each of the car's methods are assigned to a key.
- When the user presses a key, it calls the appropriate function.
- These letters also trigger a global function called `reWriteStats()` that logs the car's make, model, color, mileage, and `isWorking` status to the console.
- **HINT:** You will need to use the `document.onkeyup()` function to collect input from the user's keyboard.

Suggested Time: 30 minutes



Instructor Demonstration

Run That Car!

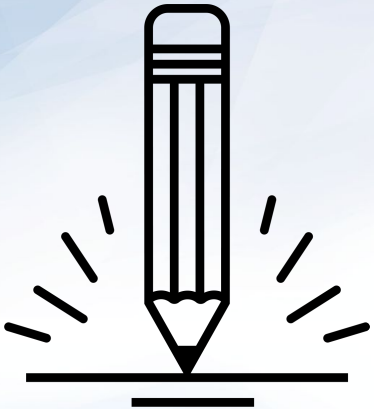


Activity: Scope & Callbacks

Instructions sent via Slack

Suggested Time:
20 minutes

Workbook and Homework



Group Activity:
Question Game

Suggested Time:
20 minutes

Group Activity: Question Game

Starting from a blank HTML file:

Create an object with 10 questions. The object should be structured like this:
q1: [“QUESTION”, “ANSWER”] **q2:** [“QUESTION”, “ANSWER”]

Then create code that will ask the user questions, one by one. The user must answer by hitting **t** (for true) or **f** (for false).

Check the user’s answer against the correct answer, and provide them with an alert telling them if they are right or wrong.

Bonus: Keep track of the user’s score.

Hint: Don’t worry about having DRY code to start with. Just focus on getting working code first.

Suggested Time: 20 minutes

Questions?