Instruction

Project 5: Word Guessing Game

The Study Guide is a list of Treehouse videos, Practice Sessions, project Warm Ups, and other resources to help you accomplish the specific project requirements. If you get stuck at any point during the project, refer to this Study Guide to help you overcome obstacles and move forward again.

Getting started

For the fifth project, you will use JavaScript to create the interactivity portion of a word guessing game. The HTML and CSS will already be written for you, and you will interact with elements that are created in the HTML file, as well as create new elements dynamically inside of your JavaScript. You will also write out the logic for displaying a phrase on-screen, handling a user selecting a letter, and determining if the user won or lost the game.

- Download the project source files from the Word Guessing Game project instructions page in your Techdegree curriculum.
- Set up a new GitHub repo and push the project files to it.
    - Related video: Share Your Projects with GitHub
- As you write your JavaScript code, be sure to save and test often. Code a small section and then test. This will help make troubleshooting much easier
- Double check everything, validate your files, request an informal review in Slack, and then submit.

How to succeed at this project

This is just one approach to doing this project. Following this guide will help you meet all the requirements in the How You'll Be Graded section. Make sure you meet all of the requirements before you turn in your project.

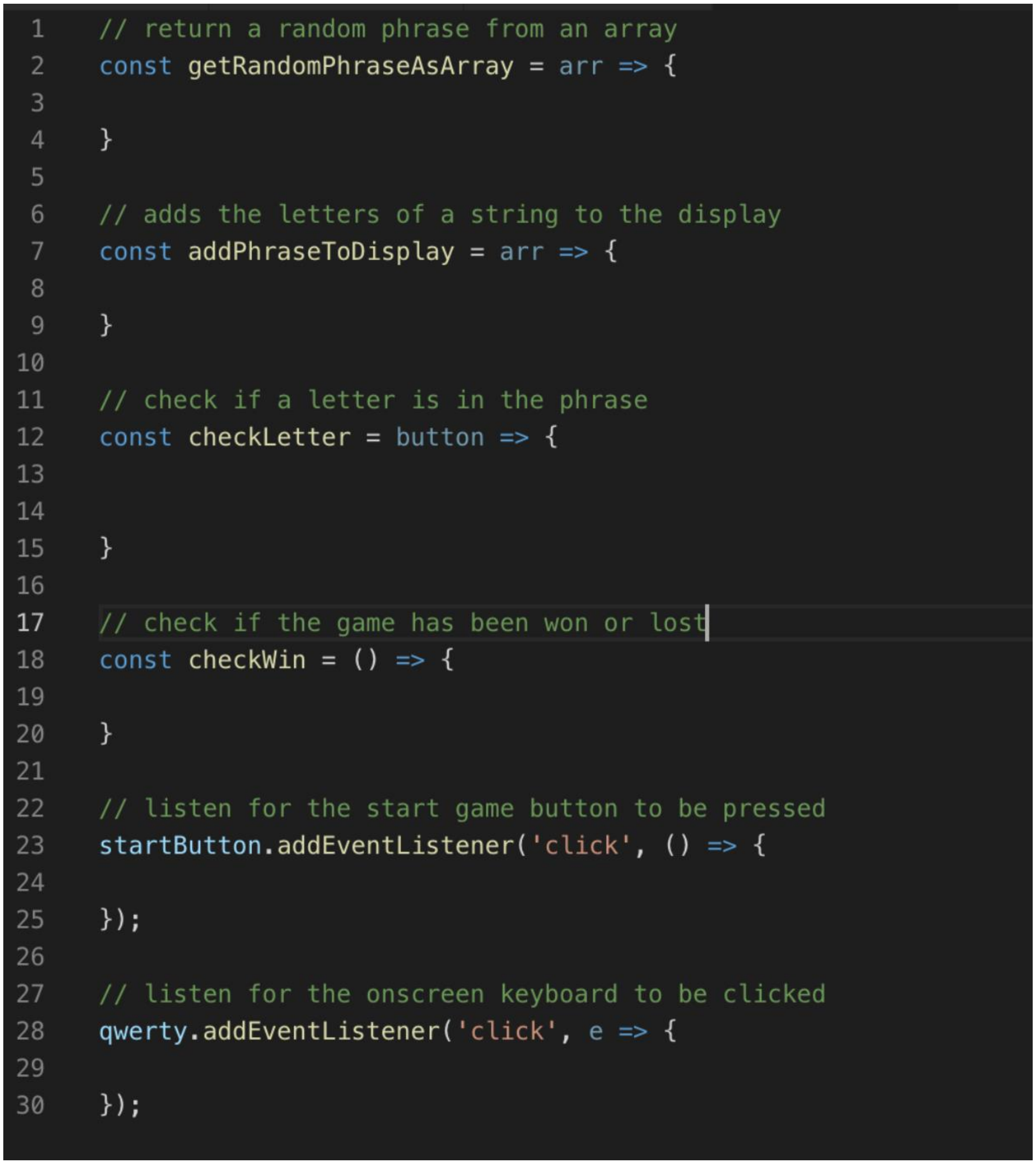
1: Create needed variables

- `buttons` - Use `querySelectorAll` to select all the buttons inside the element with an ID of `qwerty`

- `phrase` - Use `querySelector` to target the ul inside of the element with the ID `phrase`
- `startGame` - Get the element with a class of `btn__reset` and save it to a variable
- `overlay`
- `missed` - Create a `missed` variable, initialized to 0, that you'll use later to keep track of the number of guesses the player has missed (remember, if the player guesses wrong 5 times, they lose the game)

2: Create a "phrases" array

- Declare and initialize the `phrases` array, storing at least five strings that contain only letters and spaces, no punctuation.
- *Related video:* Practice Basic Arrays in JavaScript



```
// return a random phrase from an array
const getRandomPhraseAsArray = arr => {

}

// adds the letters of a string to the display
const addPhraseToDisplay = arr => {

}

// check if a letter is in the phrase
const checkLetter = button => {


}

// check if the game has been won or lost
const checkWin = () => {

}

// listen for the start game button to be pressed
startButton.addEventListener('click', () => {

});

// listen for the onscreen keyboard to be clicked
qwerty.addEventListener('click', e => {

});
```

Example of the project's function headers, or "stubs".

3: Attach an event listener to the "Start Game" button to hide the start screen overlay

- Add the event listener to the variable you created for the `btn_reset` element
- Hide the overlay by changing its `display` property

4: Create a getRandomPhraseAsArray function

- Start by creating a function "stub", where you declare the function and its parameters, but leave the function body blank. Add a code comment that describes the purpose of the function.
- Create a variable to store a random number based on the length of the array
- Use the variable to select an index inside of the array.
- After you create the `getRandomPhraseAsArray`, you will need to "call" it, and pass the `phrases` array to it.
- Return the array element at that index
- Related videos:
    - Practice Basic JavaScript Functions
    - JavaScript Numbers: Create a Random Number

5: Create an addPhraseToDisplay function

- Create an `addPhraseToDisplay` function that loops through an array of characters. You will need to write it to take any array of letters and add it to the display.
    - Inside the loop:
    - Target the
    - Create a list item (`li`)
    - Put the character inside of the list item
    - Append that list item to the #phrase `ul` in your HTML
    - If the character in the array is a letter and not a space, the function should add the class `letter` to the list item. If not, add the `space` class
- To use the function, you'll get the value returned by the `getRandomPhraseAsArray`, save it to a variable, and pass it to `addPhraseToDisplay` as an argument.
- Related videos:
    - Practice Basic JavaScript Functions
    - Creating New Dom Elements
    - Appending Nodes

6: Create a checkLetter function

- Create a function "stub" for the `checkLetter` function

    - Include a parameter in the function head for the button that gets clicked
- Store all of the `li` elements in a variable inside `checkLetter`
- Create a variable to store if a match is found and give it an initial value of `null`
- Loop through all of the `li` elements. Remember: arrays start with index `0`.
    - Create a conditional that compares the text of the button parameter to the text of the `li` at the current index of the loop
    - If they match, add the "show" class to the `li`, then store the button text in the `match` variable
- Once the loop completes, `return` the `match` variable
- *Related video:* Practice Basic JavaScript Functions

7: Add an event listener to the keyboard

Note: the event listener should be listening for a user to press a button on the on screen keyboard, not the physical keyboard of the computer.

- Start by creating an event listener for the `qwerty` element that listens for the `click` event.
- Use a conditional to filter out clicks that don't happen on the buttons or if the button already has the "chosen" class
    - Add the "chosen" class to the button that was pressed.
    - Call the `checkLetter` function and store the results in a variable.
    - If the `checkLetter` function does not find a letter, remove one of the heart images and increment the `missed` counter
- Related Videos:
    - JavaScript and the Dom: What is an Event?
    - JavaScript and the Dom: Listening for Events with addEventListener

8: Create a checkWin function

- Create a variable to store the `li` elements that have the class name "letter"
- Create a variable to store the `li` elements that have the class name "show"
- Check if the length of the 2 variables are the same. If they are, display the win overlay
    - Create the "win" overlay by adding the "win" class to the start overlay.
    - Change the headline text of the start overlay to show a person won.
    - Change the `display` property of the overlay to "flex"
- Check if the missed counter is greater than 4. If they are, display the lose overlay

    - Create the "lose" overlay by adding the "lose" class to the start overlay.
    - Change the headline text of the start overlay to show a person lost.
    - Change the `display` property of the overlay to "flex"
- Related video: Practice Basic JavaScript Functions

Good luck! And remember if you need any help or have any questions, the Slack community is here for you!