

Learn Coding Fundamentals

Before Class:

1. Go to this [GitHub Repository](#)
2. Follow the instructions in the “ReadMe”
 - a. Download a Text Editor
 - b. Download the GitHub Repository
 - i. Open the files in the “Class_Files” folder with your text editor.

Topics and Definitions:

- **Text Editor:** A software used for writing code.
 - Examples include: Sublime, Atom, Brackets, Visual Code
 - I will be using Visual Code as my editor. Note that this is different from Visual Studio.
- **File Structure:** It is important keep your files organized, and that you know where they are. When working with HTML/CSS and JavaScript you will have to use the file paths to connect each piece together.
- **HTML:** Used to add content to a webpage
- **CSS:** Used to style the content in an HTML document
- **JavaScript:** A scripting language used to programmatically manipulate elements in the HTML and CSS documents.
- **Variables:** Are a tool used to store a piece of data so that you can manipulate it with code later
 - Data Types: This doesn't pertain to JavaScript, but many languages of different variables that store different types of data. These are called data types.
 - “int” will store a whole number, or integer value
 - “float” will store a number with a decimal point

- “char” will store a single letter value, or character
 - “string” will store a series of letter values, a string of characters
- **Array:** An array stores data similar to a variable, but a variable is limited to storing a singular piece of data. Where an array can store large amount of data. This is useful for automating code.
- **Event Listener:** This is a specific concept for JavaScript. An event listener will “listen” for a specific “event” to occur on your HTML document.
 - For example: A click is considered an “event”. If you have a click event listener to a button you can assign a body of code to run when that event is triggered.
- **Conditionals:** These are used to make decisions in code. We will work with two in this course. The “If” and the “switch”
 - **If:** An if statement will prevent a certain section of code from running until a condition is met. For example: *if (x = 5) {“run this code”}*
 - **Switch:** A switch statement defines a series of states, and will run different code depending on which state your program is in. For example: *Case x = 5 “run this code”; Case x = 6 “run this code”*
- **Function:** A body of code that can be “called” or ran at a specific time. For example: When an if statement is true, you can call a function that will run.
- **Loops:** Are used to run a body of code repeatedly. This course will use a “for” loop. A for loop requires an iterator or counter and will run until the counter reaches a desired number.

Resources:

- For HTML/CSS & JavaScript: [W3 Schools](#)
- JavaScript: [MDN web documents](#)
- Useful tutorials: [Code Train](#)
 - Useful library to segue into programming: [P5.js](#)

Examples of HTML/CSS & JavaScript Games:

- [Black Room](#)
- [Cookie Clicker](#)
- [OnOff](#)

Challenges:

1. Increase the complexity of your text adventure.
2. Add Audio and Sound to your game.
3. Make an interactive experience with P5.js