

# JAVASCRIPT CONDITIONALS

## SHEro of the Month - Carol Shaw

Carol Shaw is one of the first female game designers and programmers in the video game industry. When working for Atari, Shaw was regarded as one of the BEST programmers where she created digital versions of Tic Tac Toe. She was able to pave the way for future women in video game design and development.

Carol Shaw is still alive today!

Carol Shaw Video: <https://www.youtube.com/watch?v=a78uBNli8Z0>

### Follow-up Questions:

- What was Carol Shaw the first to do?
- What is something that you like about Carol Shaw?
- What is your favorite video game?
- What is the oldest gaming system that you've played a video game on?
  - Emma's Answer: The Nintendo 64!

## Review of Past Lessons

What is the `<img></img>` tag used for?

What is HTML?

What is CSS?

What is a `<p></p>` tag used for?

When you open a tag, what must you always do?

What is Javascript?

What does an Edison Robot use to “see” the path it's supposed to follow?

# Conditionals

## Overview

What is a conditional? It's a fancy way of saying *"we want to do different things based on a value"*. It uses words like "if", "else", and "else if" to tell code what to do when it sees a certain value.

When a computer reads code, it starts at the top and works its way down - JUST like how you read a book!

"If" starts a conditional - this is the first step in a set of conditionals and the very first thing the code checks or evaluates. For the code to do whatever the "if" is telling it to do, it needs to evaluate to "true". It can either evaluate to "true" (YES) or "false" (NO).

"Else" is used to tell the code what happens if the first conditional is not met. You only need this statement IF you want to DO something when your first conditional is not met. Otherwise, you don't need it at all.

"If else" is used in a string of conditionals, between "if" and "else", to give code a series of things it can check and act on. If the first conditional is false (not met), then we move on to the next one.

## Reinforce the Material

*This was a LOT of information!!! The next video will review everything we've talked about in a way that should make a lot of sense.*

Conditionals Video: <https://www.youtube.com/watch?v=6C25zY1H0iU>

\*\* The powerpoint will go over an example conditional, using pictures of Emma's dog's outfits.\*\* **What does Emma's dog wear on a walk outside?**

If it's Halloween, Moira Rose wears a hotdog costume.

Else if it's cold outside, Moira Rose wears a vest.

\*\* (IF it's not Halloween, and it's cold)

Else if Moira Rose just had a haircut, she wears a bathrobe.

\*\* (IF it's not Halloween and not cold, and she's had a haircut, she wears a robe)

Else, Moira Rose wears her harness.

\*\* (IF none of the other conditionals are met, she wears a harness)

## Let's write a conditional!

In your code, you already have a `<form></form>`. Remember that this is something you can enter information into on a website. In your form is an `<input></input>` that we can type different information into. There's also a submit button, for submitting your information. Remember from two sessions ago that this **submit** button triggers our javascript, and does something with the value we've typed into the input.

We're going to be working with a JavaScript function called **ChangeBackground**. This function is already in your JavaScript!

The conditional we're adding is going to:

1. Get the color we'll type into the form's input
2. Set the background color of our website to this color
3. Based on that color, we're going to change the font color for the rest of the website.
  - a. Why? If we choose a dark background color, we won't be able to see black text!

The code in **purple** is new is what we're adding. The code in **black** already exists in CodePen.

```
function ChangeBackground() {  
  var BackgroundColor = document.getElementById('BackgroundColor').value;  
  document.body.style.backgroundColor = BackgroundColor;  
  if (BackgroundColor == "yellow") {  
    document.getElementById('welcome').style.color = "black";  
  }  
  else if (BackgroundColor == "navy") {  
    document.getElementById('welcome').style.color = "white";  
  }  
  else if (BackgroundColor == "white") {  
    document.getElementById('welcome').style.color = "black";  
  }  
  else if (BackgroundColor == "black") {  
    document.getElementById('welcome').style.color = "white";  
  }  
}
```

Next steps:

Add conditionals with more colors! Right now, if the color you type is not set up in our function, then the background color for your website will STILL change. That's because it happens before the conditional. All the conditional is doing is changing the font color so that the font is still visible on your website. Add more conditionals that will change the font color based on what you type.

*HTML color names that you can type into your form:*

[https://www.w3schools.com/colors/colors\\_names.asp](https://www.w3schools.com/colors/colors_names.asp)

## Bringing it Back to our SHEros !!!

### Carol Shaw Activity

Carol Shaw was the first female video game programmer, who built games like tic tac toe for the Atari.

*Critical Thinking:* If you had to build your own tic tac toe game, what kinds of things do you think you would need to program for it?

- The tic tac toe board
- The "X" pieces
- The "O" pieces
- What else??? A conditional!!!
  - The game would need to know under what conditions the "X" or "O" player would win the game, or when it might become a "draw".
  - How do you win a tic tac toe game? Try to explain it with if/else if statements.

### Past SHEros

We've met a lot of SHEros over the last few months!

- **Ada Lovelace** - She was the FIRST programmer! She was a Countess, mathematician, and writer.
- **Grace Hopper** - She was a computer scientist for the United States navy and became a rear admiral. She invented the world's first **computer compiler**, which translates code language into something that humans can understand.
- **Margaret Hamilton** - She worked for NASA and wrote critical code that aided in the first landing on the moon. She is still alive today!
- **Hedy Lamarr** - She was an actress that laid the groundwork for WiFi and GPS.
- **Carol Shaw** - She was the first female video game developer and is also still alive today.

Who is your favorite SHEro so far, and why?

# Intro to For-Loops

Video Introduction: <https://www.youtube.com/watch?v=r3Ti5Xp9W8A>

## Let's Practice!

We're going to use CodeCombat to continue learning about syntax, methods, parameters, strings, and loops!!! Many students expressed interest in video games, so we wanted to combine this interest with the material we're learning this month.

### How To - Code Combat

1. Go here: <https://codecombat.com/>
2. Click "I'm a Student".
3. Enter our class code: **SingSweetNorth**
4. You will be asked to create an account.
  - a. DO NOT use any personal information.
  - b. DO use your Girls Code Club username for BOTH the name and username fields.
  - c. Enter any letter for the "last name initial" field
  - d. If you think you will forget your password, write it on the inside of your name tag.