

Javascript

Control Flow

Boolean Logic: True or False

- Everything starts with the idea that a statement is either true or false.
- Then we can combine those initial statements to create more complex statements that also evaluate to true or false.
- Boolean logic example:
 - Is a user logged in?
 - If the user is logged in, send them to their dashboard. If not, send them to the login page.
- Boolean logic is used to run a piece of code if something is true as well as run another piece of code if something is false.

Comparison Operators

Assuming x = 5

Operator	Name	Example	Result
>	Greater than	x > 10	false
>=	Greater than or equal to	x >= 5	true
<	Less than	x < -50	false
<=	Less than or equal to	x <= 100	true
==	Equal to	x == "5"	true
!=	Not equal to	x != "b"	true
===	Equal value and type	x === "5"	false
!==	Not equal value or equal type	x !== "5"	true

Logical Operators

AND, OR, and NOT

Operator	Name	Example	Result
&&	AND	<code>x < 10 && x !== 5</code>	false
	OR	<code>y > 9 x === 5</code>	true
!	NOT	<code>!(x === y)</code>	true

Assuming `x = 5` and `y = 9`

JS Conditionals: Making Decisions with our Code

- If/else if/else
 - If you are younger than 18
 - You cannot enter the venue
 - If you are between 18 and 21
 - You can enter but cannot drink
 - Otherwise
 - You can enter and drink.

JS Conditionals Example

```
if(age < 18) {  
    console.log("You are not old enough to enter the venue.")  
} else if(age > 18 && age < 21) {  
    console.log("You can enter but cannot drink");  
} else {  
    console.log("You can enter and drink.");  
}
```

Note about Assignment 7.1

- In JavaScript there are two operators you can use to find quotient and remainder. (/) slash and (%) modulus, **where the / will give the quotient and % will give the remainder value.**
- If a number divided by 2 has a remainder of 0 (zero) then it is an Even number. Otherwise it's an odd number.

Assignment 7.1: Conditionals Exercise

Create a JS Conditional that asks the user for their age and does the following:

- If their age is negative
 - Print an error message to the console
- If their age is 21
 - Print “happy 21st birthday!!” to the console
- If their age is odd
 - Print “your age is odd!” to the console
- If their age is even
 - Print “your age is even!” to the console

Click [here](#) for example.

Assignment 7.2: Guessing Game

Create a JS Conditional that asks the user to guess a number.

- If the number is correct
 - Alert "You got it right"
- If the number is too high
 - Alert "Too high. Guess again!"
- If the number is too low
 - Alert "Too low. Guess again!"

Click [here](#) for example.

Introduction to Loops

- Loops are used to repeat code until you specify when you want it to stop.
- Follow the “DRY” principle when coding:
 - **D**on't
 - **R**epeat
 - **Y**ourself
- There are 2 types of loops we'll be learning:
 - While loops
 - For loops

While Loops

- Repeat code WHILE a condition is true.
- Similar to an if statement, except it repeats a given code block instead of just running it once.

```
while(someCondition) {  
    // run some code block  
}
```

While Loop example

```
console.log("1");  
console.log("2");  
console.log("3");  
console.log("4");  
console.log("5");  
console.log("6");  
console.log("7");  
console.log("8");  
console.log("9");  
console.log("10");
```

```
var count = 1;  
  
while (count <= 10) {  
    console.log(count);  
    count++;  
}
```

Assignment 7.3: While Loops Problem Set

- Print all numbers between -10 and 19 to the console
- Print all even numbers between 10 and 40 to the console
- Print all odd numbers between 300 and 333 to the console
- Print all numbers divisible by 5 AND 3 between 5 and 50 to the console

Assignment 7.4: Annoying Game

- Ask the user “Are we there yet?”
- Keep asking again and again until they enter “yes” OR “yeah”
- Then, alert “Yay, we finally made it!”

Click [here](#) for example.

For Loops

- Very similar to While loops.
- You define the variable, the condition, and what you want to happen to the variable after it runs each time within the parentheses.
- It's common for the count variable to be called "i".
- For example:

```
for (var i = 1; i <= 10; i++) {  
    console.log(i);  
}
```

For Loops and While Loops comparison

While Loop

```
var count = 1;

while (count <= 10) {
    console.log(count);
    count++;
}
```

For Loop

```
for (var i = 1; i <= 10; i++) {
    console.log(i);
}
```

- Both loops do the same thing.

Assignment 7.5: For Loops Problem Set

- Print all numbers between -10 and 19 to the console
- Print all even numbers between 10 and 40 to the console
- Print all odd numbers between 300 and 333 to the console
- Print all numbers divisible by 5 AND 3 between 5 and 50 to the console