1. Intro to Loops

JS loops to repeatedly execute a block of code.

1. While Loops

Count to 10,000, incrementally. Same code, use a loop!

var x = 1;

while (x <= 10000) {

console.log(x + “ Mississippi!”);

x = x + 1;

}

1. Parts of a While Loop

Three parts in a loop.

When to start, when to stop, how to get to the next item.

Avoid infinite loops.

1. Quiz: JuliaJames (4-1)

var x = 1;

while (x < 21) {

if (x % 3 === 0) {

if (x % 5 === 0) {

console.log("JuliaJames");

} else {

console.log("Julia");

}

} else if (x % 5 === 0) {

console.log("James");

} else {

console.log(x);

}

x = x + 1

}

1. Quiz: 99 Bottles of Juice (4-2)

var num = 99;

while (num > 0) {

// check value of num

// print lyrics using num

// don't forget to check pluralization on the last line!

// decrement num

if (num < 3) {

if (num === 2) {

console.log(num + " bottles of juice on the wall! " + num + " bottles of juice! Take one down, pass it around... " + (num - 1) + " bottle of juice on the wall!");

} else {

console.log(num + " bottle of juice on the wall! " + num + " bottle of juice! Take one down, pass it around... " + (num - 1) + " bottles of juice on the wall!");

}

} else {

console.log(num + " bottles of juice on the wall! " + num + " bottles of juice! Take one down, pass it around... " + (num - 1) + " bottles of juice on the wall!");

}

num = num - 1;

}

1. Quiz: Countdown, Liftoff! (4-3)

var seconds = 60

while (seconds > -1) {

switch (seconds) {

case 50:

console.log("Orbiter transfers from ground to internal power");

break;

case 31:

console.log("Ground launch sequencer is go for auto sequence start");

break;

case 16:

console.log("Activate launch pad sound suppression system");

break;

case 10:

console.log("Activate main engine hydrogen burnoff system");

break;

case 6:

console.log("Main engine start");

break;

case 0:

console.log("Solid rocket booster ignition and liftoff!");

break;

default:

console.log("T-" + seconds + " seconds");

}

seconds--;

}

1. For Loops

More control over the looping process.

1. Parts of a For Loop

for ( start; stop; step ) {

// do this thing

}

for (var i = 0; i < 6; i = i + 1) {

console.log("Printing out i = " + i);

}

1. Nested Loops

for (var x = 0; x < 5; x = x + 1) {

for (var y = 0; y < 3; y = y + 1) {

console.log(x + "," + y);

}

}

1. Increment and Decrement

x++ or ++x // same as x = x + 1

x-- or --x // same as x = x - 1

x += 3 // same as x = x + 3

x -= 6 // same as x = x - 6

x \*= 2 // same as x = x \* 2

x /= 5 // same as x = x / 5

1. Quiz: Changing the Loop (4-4)

for(var x = 9; x >= 1; x--) {

console.log("hello " + x);

}

1. Quiz: Fix the Error 1 (4-5)

for (var x = 5;x < 10; x++) {

console.log(x);

}

1. Quiz: Fix the Error 2 (4-6)

for (var k = 0; k < 200; k++) {

console.log(k);

}

1. Quiz: Factorials! (4-7)

var solution = 1;

for (var x = 12; x > 1; x--) {

solution \*= x;

}

console.log(solution);

1. Quiz: Find my Seat (4-8)

for (var row = 0; row < 26; row++) {

for (var seat = 0; seat < 100; seat++) {

console.log(row + "-" + seat);

}

}

1. Lesson 4 Summary

Functions might be better than loops!