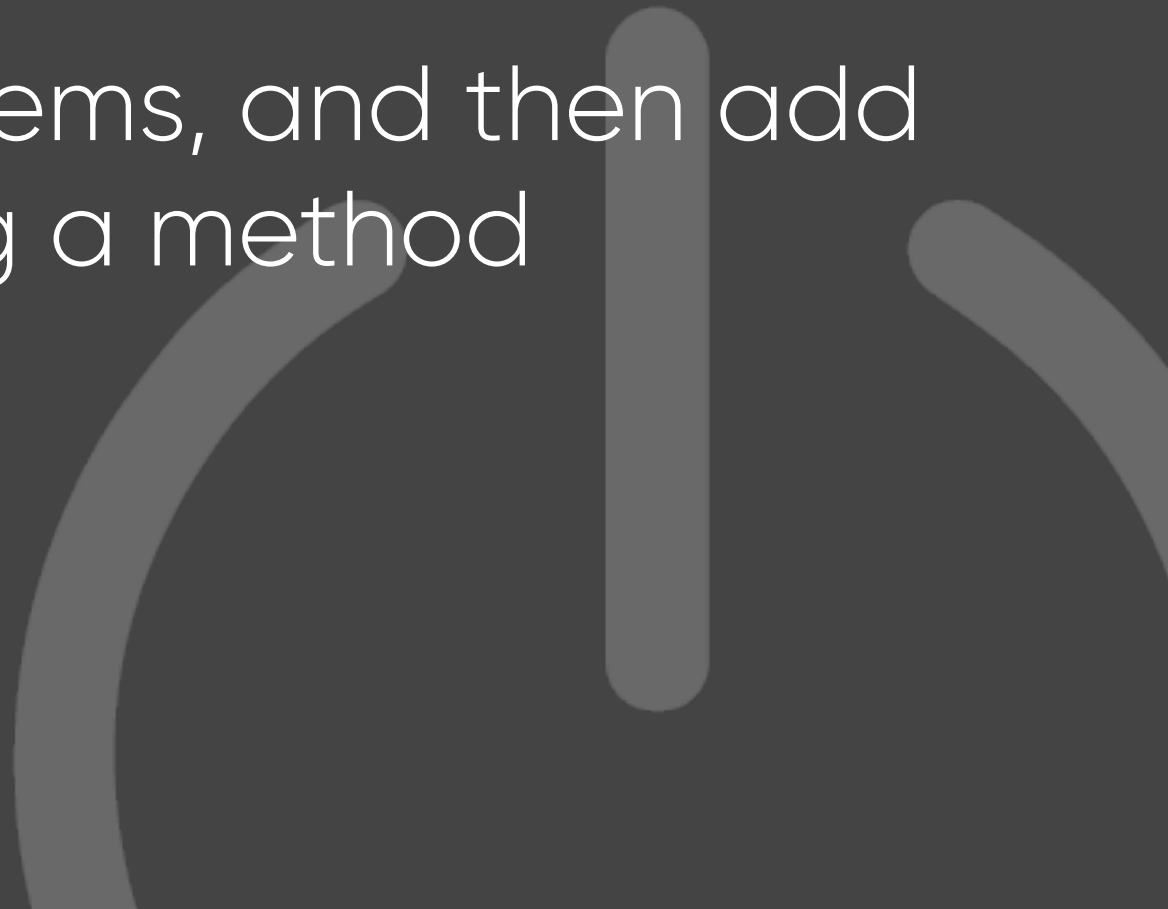
First thing's first

- Create a function for a sub sandwich order with 5 toppings
- Create an array with 3 items, and then add another to the start using a method



First thing's first

Create a function for a sub sandwich order: 5 toppings

```
const sandwichOrder = (top1, top2, top3, top4, top5)=>{

    console.log(`We are preparing your sandwich order:
    ${top1}, ${top2}, ${top3}, ${top4}, ${top5}`);

}

sandwichOrder("ham","cheese","turkey","bacon","tuna");
```

Second things second

Create an array with 3 values and then add another to the start of the array using a method

```
let values = [1,2,3];
values.unshift(4);
```

Code Nation

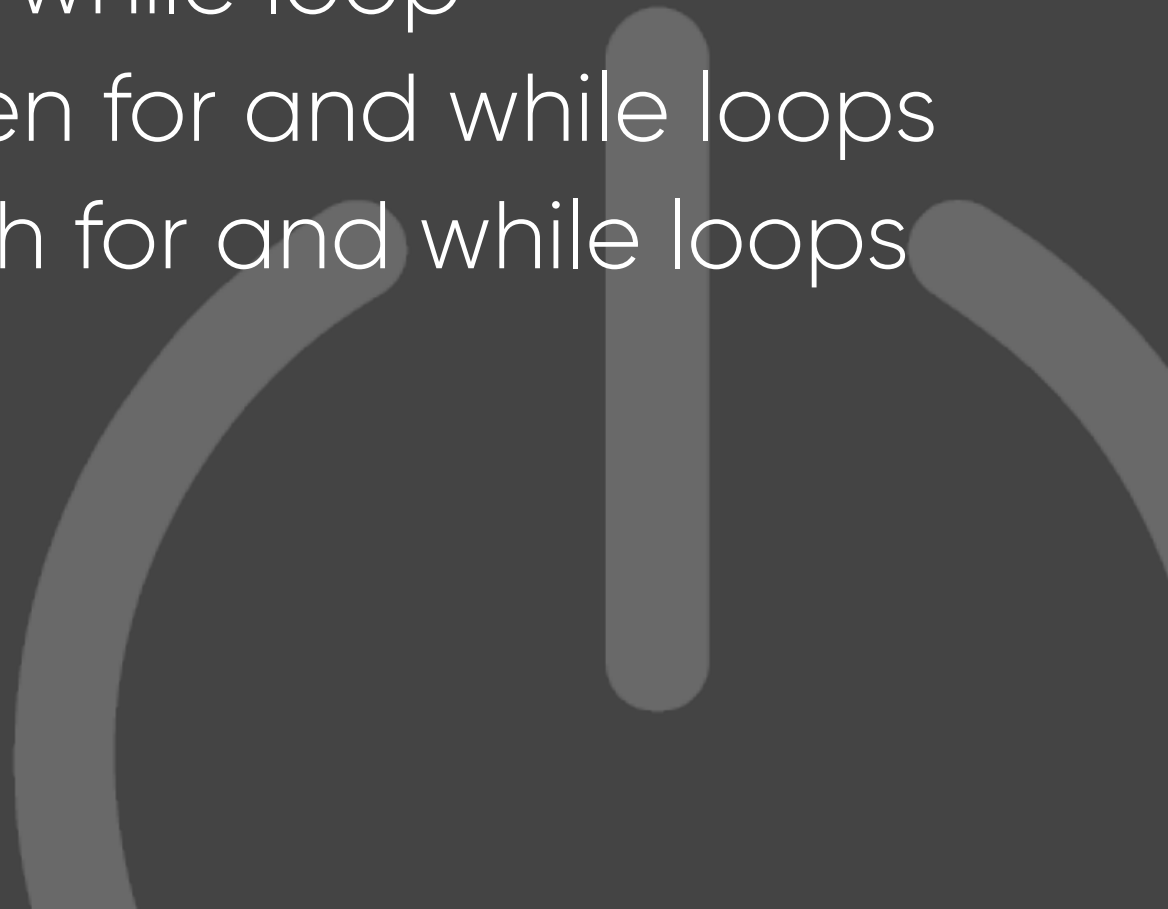
JavaScript Fundamentals

Loops

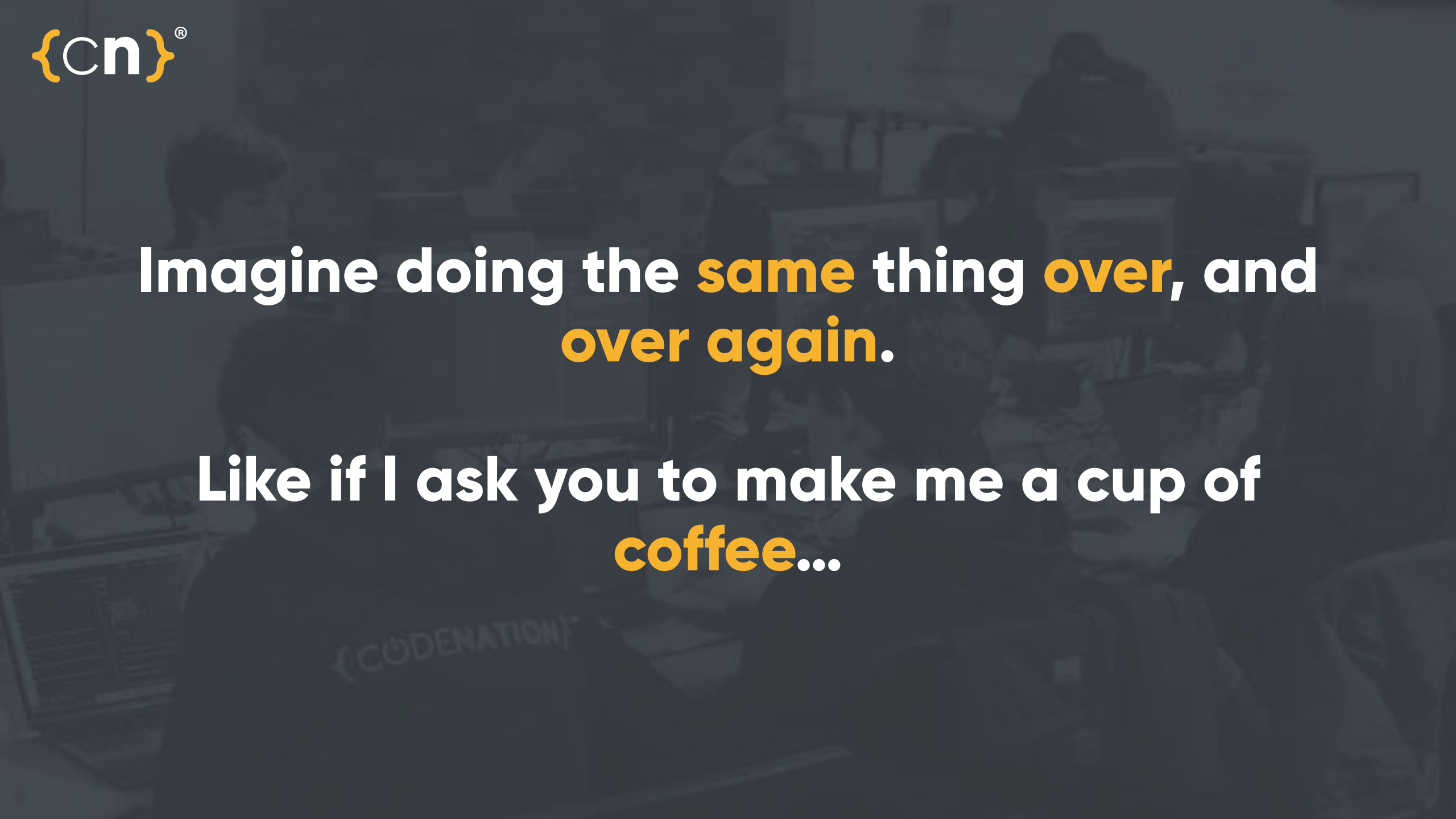
{codenation}®

Learning Objectives

- To understand the uses of a for loop
- To understand the uses of a while loop
- To tell the difference between for and while loops
- To write programs using both for and while loops




Feeling loopy yet?


Imagine doing the same thing over, and over again.
Like if I ask you to make me a cup of coffee...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And then to make everyone in the room
a cup of coffee..
(plz)


In code, we use iterations

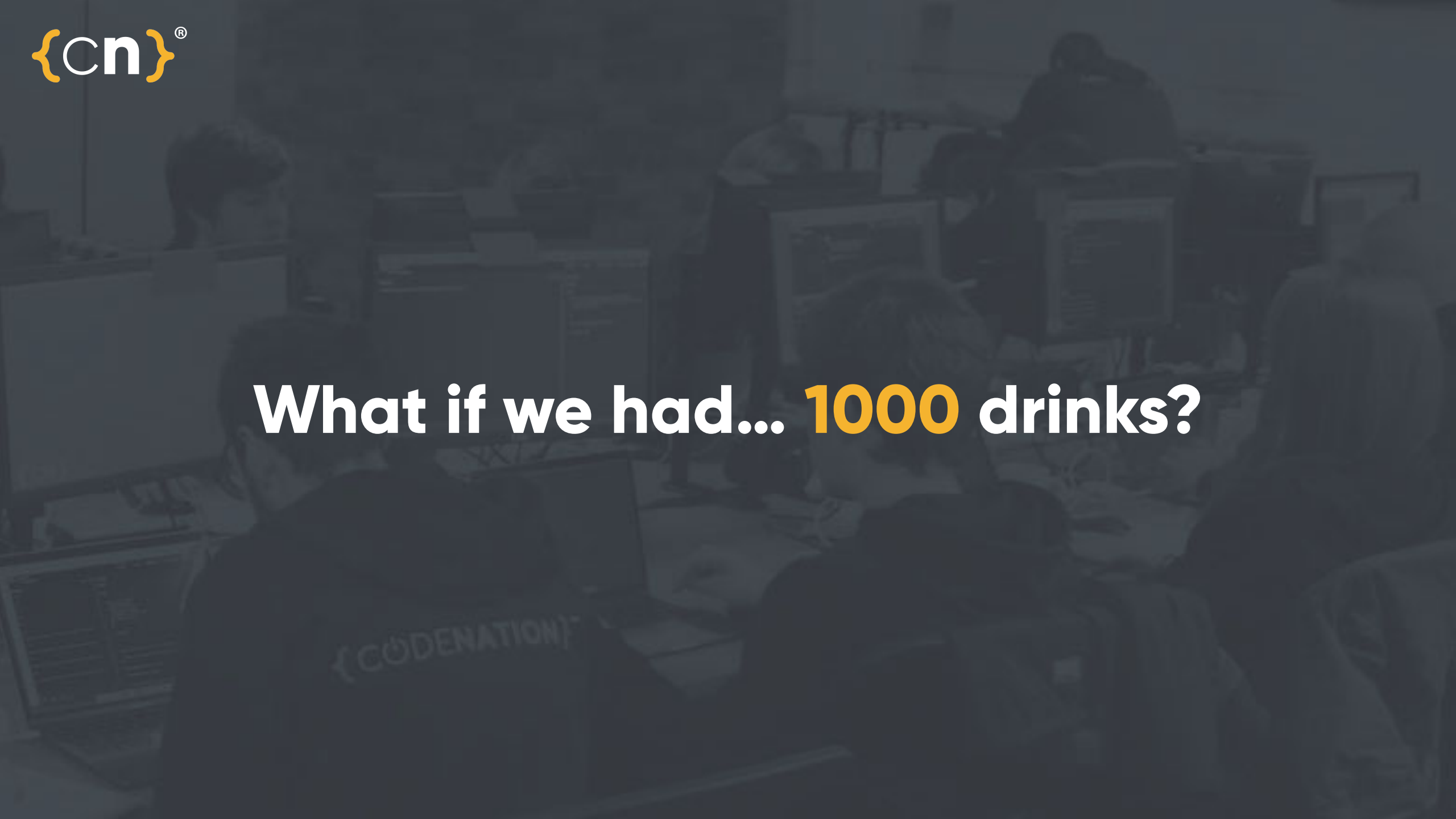

Let's start with a for loop


If I asked you to make an array of your 3 favourite drinks and log each to the console...


I'd maybe expect a little
something like this...

```
let favouriteDrinks = ["Coke", "Fanta", "Tonic"];

console.log(favouriteDrinks[0]);
console.log(favouriteDrinks[1]);
console.log(favouriteDrinks[2]);
```


What if we had... 1000 drinks?

```
let favDrinks = [
    "Coke",
    "Fanta",
    "Tonic",
    "Red Bull"
];

for(let drinksIndex=0; drinksIndex<favDrinks.length; drinksIndex++){

    console.log(favDrinks[drinksIndex]);

}
```

```
let favDrinks = [
    "Coke",
    "Fanta",
    "Tonic",
    "Red Bull"
];

for(let i = 0; i < favDrinks.length; i++){

    console.log(favDrinks[i]);

}
```

*i stands for index, which is widely used in for loops.


Let's use a little math...

Using for loops with if statement

```
let multiplesTwo = [];

for(let i = 0; i < 20; i++){
    if (i % 2 == 0){
        multiplesTwo.push(i);
    }
}

console.log(`Numbers divisible by 2 between 0 and 20 are: ${multiplesTwo}.`);
```

Using for loops with if statement

```
let multiplesTwo = [];

for(let i = 0; i < 20; i++){
    if (i % 2 == 0){
        multiplesTwo.push(i);
    }
}

console.log(`Numbers divisible by 2 between 0 and 20 are: ${multiplesTwo}.`);

//Numbers divisible by 2 between 0 and 20 are: 0,2,4,6,8,10,12,14,16,18.
```

Using for loops with function

```
const sumOfNums = (min, max) => {
    let sums = 0;
    for(let i = min; i < max + 1 ; i++){
        sums += i;
    }
    return sums;
}

console.log(`Sum of all numbers from 1 to 10 is ${sumOfNums(1,10)}.`);
```

Using for loops with function

```
const sumOfNums = (min, max) => {
    let sums = 0;
    for(let i = min; i < max + 1 ; i++){
        sums += i;
    }
    return sums;
}

console.log(`Sum of all numbers from 1 to 10 is ${sumOfNums(1,10)}.`);

//Sum of all numbers from 1 to 10 is 55.
```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And now for while loops


A for loop will run a finite number of times...
While loops are a little different.

```
while (condition){
    //do stuff
}
```

```
let age = 15;

while( age < 18 ){

    console.log("You're a child!");
    age++;

}

console.log("You're an adult!");
```

*this can be done in a for loop

```
let randomNumber = 0;

while(randomNumber < 10) {

    console.log("Random no. " + randomNumber + "\n Keep looping");
    randomNumber = (Math.round(Math.random() * 20));

}

console.log("No more looping, with random no. " + randomNumber);
```

```
let cards = ["Diamond", "Spade", "Heart", "Club"];
let currentCard = "Club";

while(currentCard != "Spade"){

    console.log(currentCard);
    currentCard = cards[Math.floor(Math.random()*4)];

}

console.log(currentCard);
```

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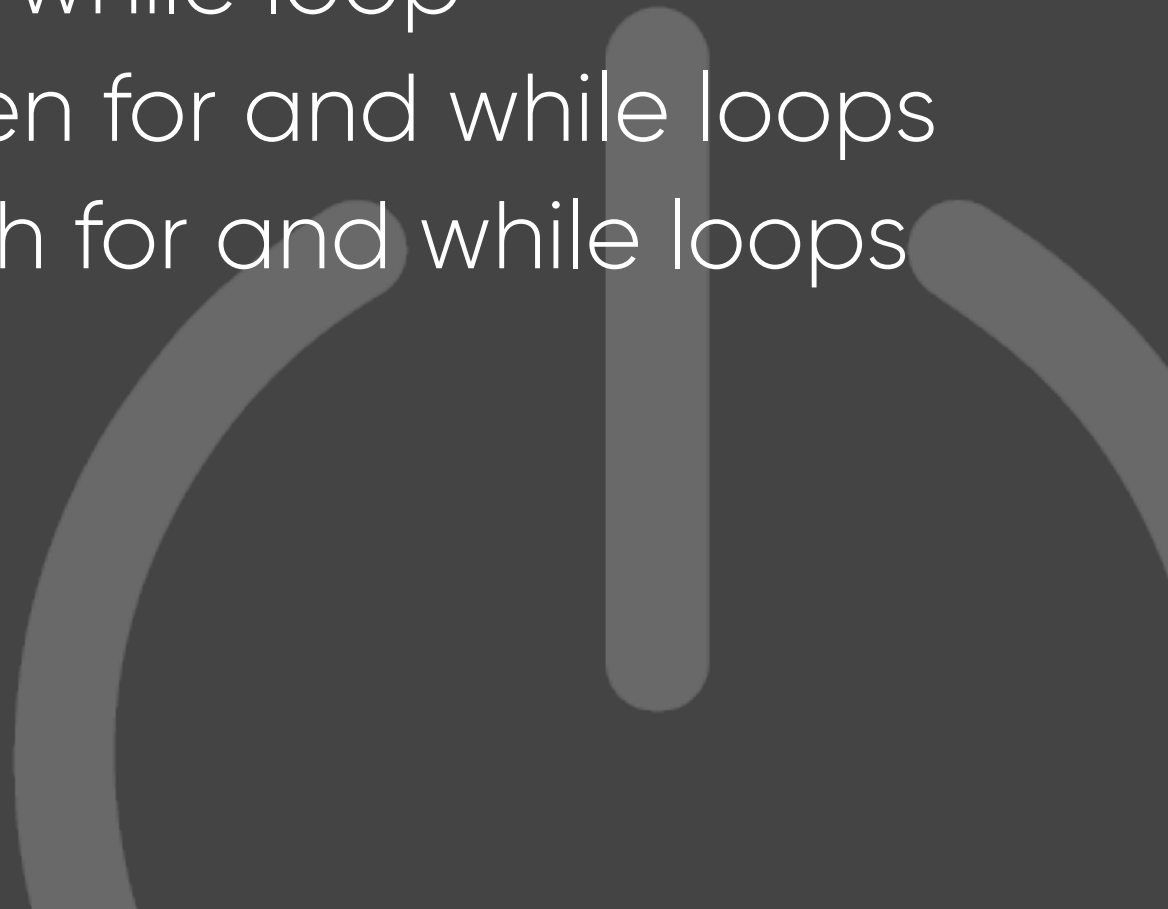

Activity(1):

Create an array that lists your favourite films, up to 5 elements

Add 2 more using a method

Use a loop to cycle through the array

```
for(let i = 0; ...){...}
```

Activity(2):

Generate 6 random numbers between 1-50

```
for(let i = 0; i < 6; i++){
    console.log(Math.random() * 49 + 1);
}
```

Activity(3):

If we can create a loop to put 0-9 on the screen, how can we count from 9 to 0?

```
for(let i = 9; i > -1; i--){
    console.log(i);
}
```

Activity(4):

Displays 4 films stored in an array

Use a **for** loop to show each film in the array

Create a function called filmCheck() that checks if the 3rd film in the array is Ghostbusters.

If it is, it should return “yey it’s ghostbusters”. If it isn’t, it should return “booo, we want ghostbusters”

Activity(5):

Create a variable, generate a random number between 1 and 30 six times, each random number generated, check if this number of divisible by 7 or not.

Activity(6):

Research on do...while loop, find out about the difference between for loop, while loop and do...while loop. Give an example of each. What are the pros and cons?

Activity(7):

Create a program that check all numbers between 1 and 20, whether it is a prime number or not.