Code Nation

JavaScript Fundamentals

Loops

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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

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First thing's first

Create a function for a sub sandwich order: 5 toppings

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```
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

Generate 6 random numbers between 1-50

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

Second things second

Generate 6 random numbers between 1-50

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

Or

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

Second things second

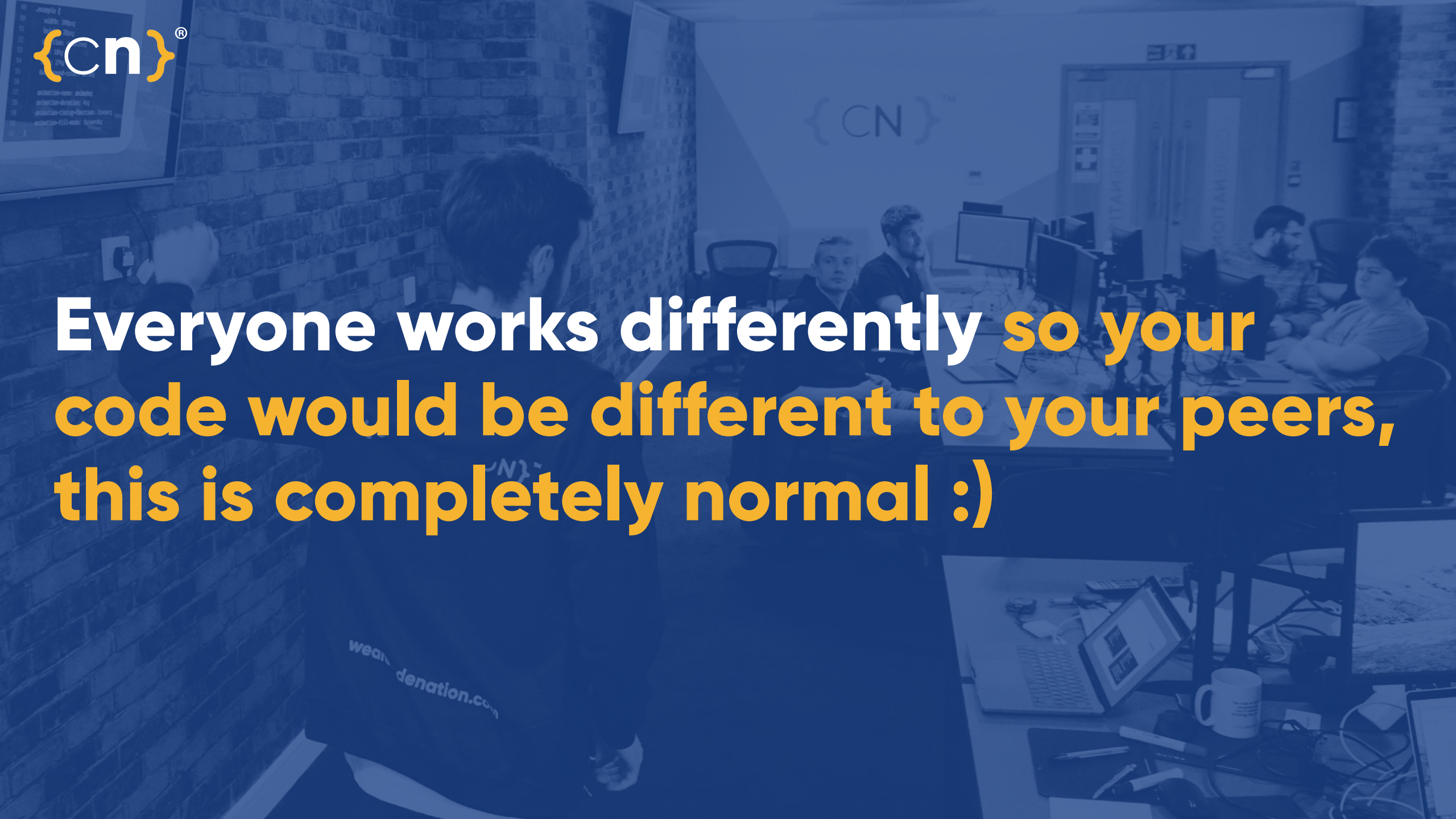
If we can create a loop to put 0-9 on the screen, how can we count from 9 to 0?

Try it.

Second things second

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

```
for (i = 9; i > -1; i-- ){
    console.log(i);
}
```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Everyone works differently so your code would be different to your peers, this is completely normal :)

Moving on. Loop de loop

Imagine doing the same thing over and over and over again.

For example, if I asked you to make me a cup of tea...

And then asked you again to make everyone in the room a cup of tea...

Or updating stocks in a warehouse...

Iteration in coding

for loops

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

1) I'd expect you to have a good time doing it

2) I'd expect you to do something like this

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

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

But imagine if I said 1000 drinks

Let's make this code work for us.

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

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

    console.log(favouriteDrinks[drinksIndex]);

}
```

```
for (statment1; statment2; statement3){
    //do stuff
}
```

Iteration in coding using for loops

```
let favouriteChoco = [
    "Mars",
    "Snickers",
    "Dairy Milk",
    "Picnic"
];

for(let chocoIndex = 0; chocoIndex<favouriteChoco.length; chocoIndex++) {
    console.log(favouriteChoco[chocoIndex]);
}
```

Activity:

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 filmIndex = 0 ....)

while loops

for loops run a finite, or limited number of times.

A while loop is a little different

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

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

while(currentCard != "Spade"){

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

}

console.log(currentCard);
```

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Activity:

Displays 4 films stored in an array

Use a 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”