

# Loops and iteration

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# Rules

Feel free to interrupt me for:

- questions
- relevant comments

# Agenda

- for loop
- while loop
- do...while loop
- for...in loop (objects)
- for...of loop (iterable objects such as Arrays, Maps, Sets, etc.)

# for loop

1. the `initialization` expression is executed
2. the `condition` expression is evaluated
3. the `statement` executes
4. if present, the update expression `afterthought` is executed
5. control returns to the `condition` expression

```
for (initialization; condition; afterthought) {  
    statement;  
}
```

# while loop

1. the `condition` expression is evaluated
2. the `statement` executes

```
while (condition) {  
    statement;  
}
```

- be careful of infinite loops
- always modify the loop variable inside the loop

# do...while loop

1. the `statement` executes at least once
2. the `condition` expression is evaluated

```
do {  
    statement;  
} while (condition);
```

- be careful of infinite loops
- always modify the loop variable inside the loop

# for...in loop (objects)

1. iterates over all enumerable properties of an object
2. execute the `statement` for each property

```
for (property in object) {  
    statement;  
}
```

# for...of loop (iterable objects)

1. iterates over all items of the iterable object
2. execute the `statement` for index

```
for (item of iterableObject) {  
    statement;  
}
```

- output order is not guaranteed
- don't mutate the iterable object (in statement)
- prefer `forEach()` or `for loops` for array iteration



# Workshop

- demo

**Happy coding!**