Javascript

Types of For loop

for(i = 0; i < n; i++)

for....of

for await....of

for....in

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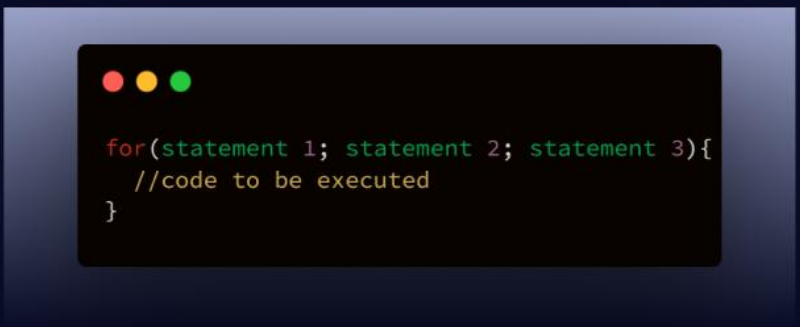
Traditional for loop

The simplest traditional type of *for loop* which increments a variable as its iteration method. The variable acts as a counter for every "n"th element within an object.

Syntax



Statement 1 is executed only once before the execution of the code.

Statement 2 is the condition for executing the code block.

Statement 3 is executed every time after the code block has been executed.

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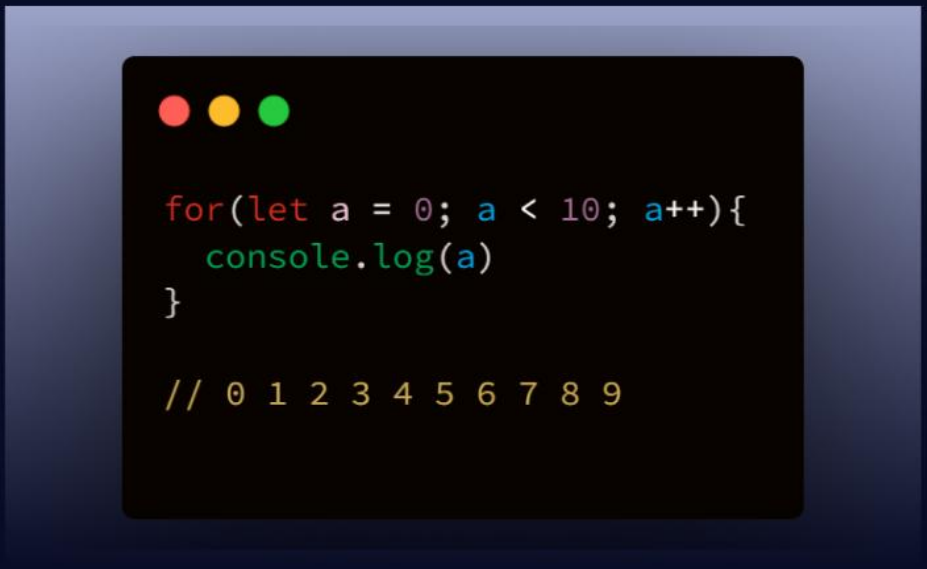

```
for(let a = 0; a < 10; a++){
  console.log(a)
}

// 0 1 2 3 4 5 6 7 8 9
```

- The above program first initializes a with 0. Then it checks for the condition if a is less than 10.If the condition returns true, then it exceutes the block of statments. Then it increments a by 1(third statment) .

- Now a =1 ..checks for the condition if a < 10 exceutes block of code. a increments by 1 again
- Now a =2 ..checks for the condition if a < 10 exceutes block of code. a increments by 1.....This continues a=3 , a=4.....so on
- The loop will end, if the condition a<10 returns false
- So when a=10 it checks for condition if a<10 it returns false. So the loop ends

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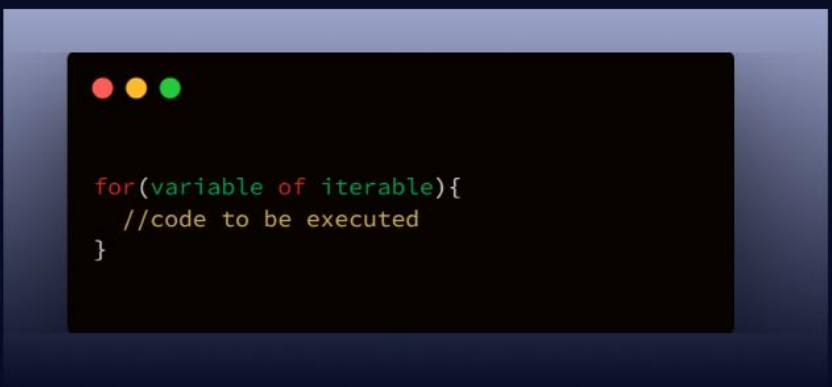
for of loop

The *for of loop* iterates over values of iterable like String, Map, Set, Array etc...

Syntax



```
for(variable of iterable){
  //code to be executed
}
```

Variable The value of iterable will be assigned to this variable

Iterable Any object which has looping properties

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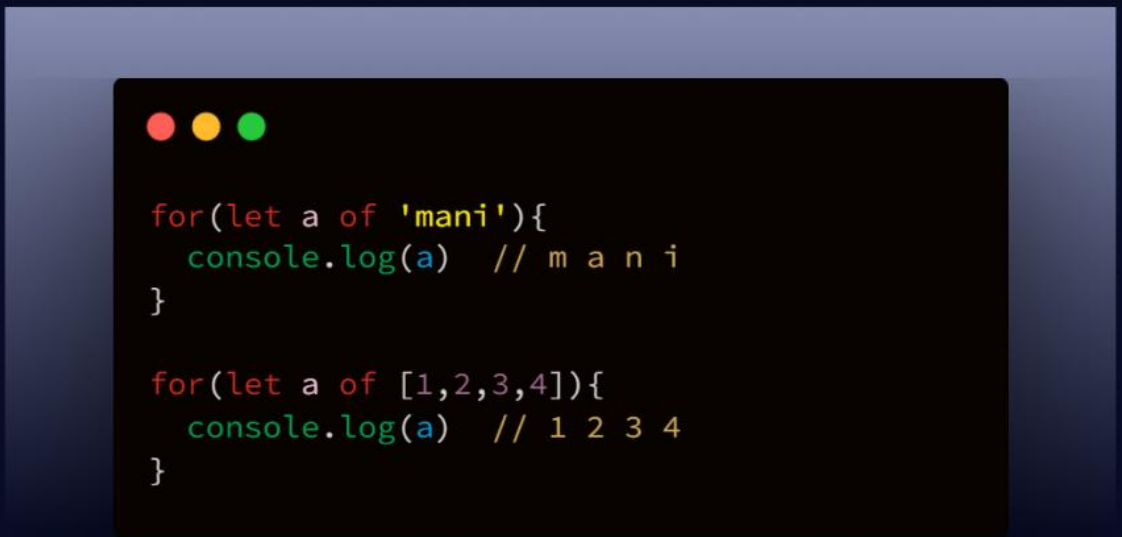

```
for(let a of 'mani'){
  console.log(a)  // m a n i
}

for(let a of [1,2,3,4]){
  console.log(a)  // 1 2 3 4
}
```

Variable : From above example a iterates over the iterable and it will be assigned with new value.

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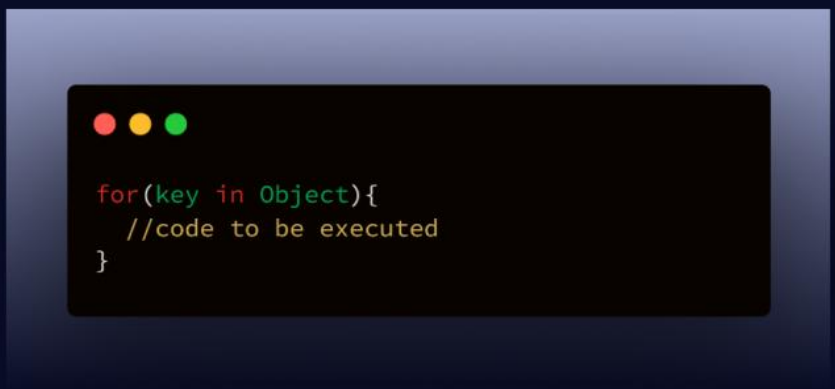
for in loop

The *for in loop* iterates through the properties of an Object

Syntax



key For each iteration each key of the object will be assigned.

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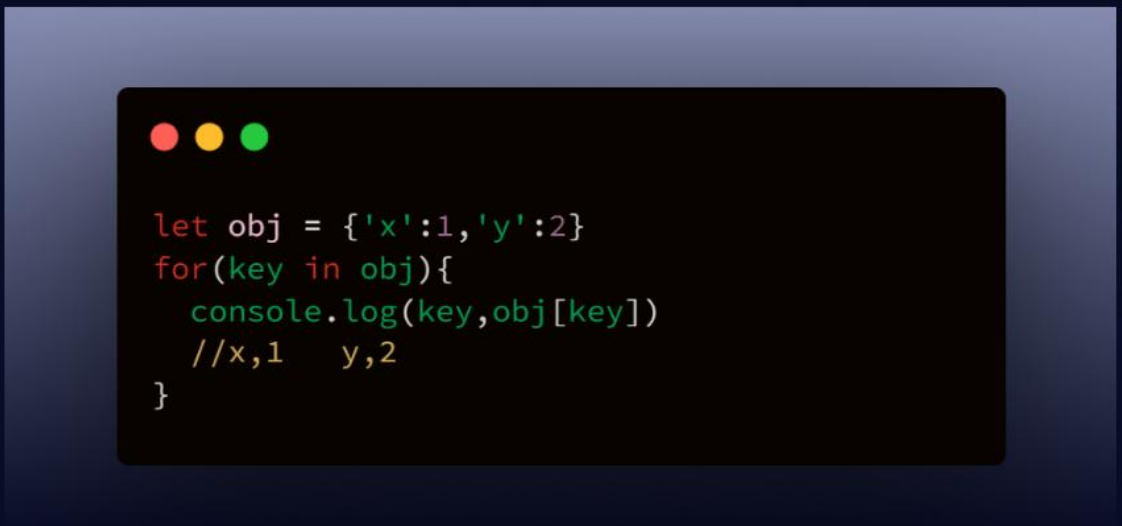

From above example key will be assigned x for first iteration and y for second iteration

To get the key of the object for each iteration: key

To get the value of the object for each iteration: obj[key]

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for await ...of loop

The *for await ..of* statement creates a loop iterating over async iterable objects as well as on sync iterables, String, Array, Array-like objects, Map, Set etc...

Syntax

Variable For each iteration different property will be assigned to this variable

Iterable Any object which has looping properties

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```
async function* asyncGenerator() {
  yield 'a'
  yield 'b'
}

(async () => {
  for await (const num of asyncGenerator()) {
    console.log(num);
    // a b
  }
})();
```

Note: The generator function is denoted by * . You can either use function* asyncGenerator() {...} or function *asyncGenerator(){...} to create them.

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