

Chapter 3 - Loops & Functions

We use loops to perform repeated actions. For example - If you are assigned a task of printing numbers from 1 to 100, it will be very hectic to do it manually. Loops help us automate such tasks.

Types of loops in JavaScript

for loop → loop a block of code no of times
for in loop → loops through the keys of an object
for of loop → loops through the values of an object
while loop → loops a block based on a specific condition
do-while loop → while loop variant which runs atleast once

The for loop

The syntax of a for loop looks something like this

```
for ( statement 1; statement 2; statement 3 ) {  
    // code to be executed  
}
```

- Statement 1 is executed one time
- Statement 2 is the condition base on which the loop runs (loop body is executed)
- Statement 3 is executed everytime the loop body is executed

Quick Quiz : Write a sample for loop of your choice.

The for-in loop
The syntax of for-in loop looks like this

```
for (key in object) {  
    // code to be executed  
}
```

Quick Quiz: Write a sample program demonstrating for-in loop

Note - for-in loops also work with arrays which will be discussed in the later videos.

The for-of loop
The syntax of for-of loop looks like this

```
for (variable of iterable) {  
    // code  
}
```

→ For every iteration
↳ Iterable data structure like Arrays, Strings etc.

Quick Quiz: Write a sample program demonstrating for-of loops

The while loop
The syntax of while loop looks like this:

```
while (condition) {  
    // code to be executed  
}
```

Note: If the condition never becomes false, the loop will never end and this might crash the runtime.

Quick Quiz: Write a sample program demonstrating while loop.

The do-while loop

The do while loop's syntax looks like this:

```
do {
```

```
    // code to be executed
```

```
}
```

```
while (condition)
```

⇒ Executed at least once

Quick Quiz: Write a sample program demonstrating do while loop

Functions in JavaScript

A JavaScript function is a block of code designed to perform a particular task.

Syntax of a function looks something like this:

```
function myFunc () {
    // code
}
```

```
function binodFunc (parameter 1, parameter 2) {
    // code
}
```

↪ Function with parameters

Here the parameters behave as local variables

binodFunc (7, 8) \Rightarrow Function Invocation

Function invocation is a way to use the code inside the function

A function can also return a value. The value is "returned" back to the caller

Const sum = (a, b) \Rightarrow {

↓
Another way to create & use the function

let c = a + b;

return c;

}

\Rightarrow Returns the sum

let y = sum (1, 3)

console.log(y)

\rightarrow Prints 4

Chapter 3 - Practice Set

1 Write a program to print the marks of a student in an object using for loop

obj = { harry : 98, rohan : 70, aakash : 73 }

2 Write the program in Q 1 using for in loop

3 Write a program to print "try again" until the user enters the correct number.

4 Write a function to find mean of 5 numbers.