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Date \_\_\_/\_\_\_/\_\_\_

## # Loops in Javascript:-

Loops are used to execute a piece of code again & again.

1) For-loop

Syntax -

```
for (let i = 1; i <= 5; i++) {  
    console.log("This is for loop");  
}
```

Annotations:  
- Initialization: `let i = 1`  
- Stopping condition: `i <= 5`  
- Updation: `i++`

`i` declared here is only valid in this block scope not outside of this scope. So, it means we cannot access `i` outside of this block scope.

2) While loop

Syntax -

```
while (condition) {  
    // block of code  
}
```

The initialization is done before the start of while loop & updation is done inside the while loop.

3) do-while loop

Syntax

```
do {  
    // block of code  
} while (condition);
```

In do-while loop there is a guarantee that our loop will run at least 1 time before checking the condition.



The ~~differe~~ difference between do-while & while loops is that.

- In while loop the condition is checked first & then the loop is executed if the condition is true otherwise it won't execute.
- In do-while loop there is a guarantee that the loop will run at least 1 time because the condition is checked at the last after the loop has been executed once.

#### 4) For - of loop

This is a special type of loop which helps us to iterate over special data types like strings & Arrays.

Syntax

```
let str = "Lebron";           // Declare a string variable.
```

→ iterator

```
for (let val of str) {  
    console.log(val);  
}
```

★ We don't have to initialize, update & apply stopping condition here in this for-of-loop. It does it automatically.





5> For-in-loop (used to iterate over objects of Arrays).

Syntax:-

```
for (let i in student) {  
    console.log(i);  
}
```

```
let student = {  
    name: "Shaswat",  
    age: 20,  
    GPA: 7.04,  
    isPass: true,  
}
```

Output:-

name

age

GPA

isPass

it prints the value of key i.e. i ke andar hamari key ki value aarhi hai.

Now, to access the value of key we can do this

```
console.log(student[i]);
```

this will print the value of key.