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JavaScript

Loops

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Different Kinds of Loops

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JavaScript supports different kinds of loops:

- **for** - loops through a block of code a number of times
- **for/in** - loops through the properties of an object
- **for/of** - loops through the values of an iterable object
- **while** - loops through a block of code while a specified condition is true
- **do/while** - also loops through a block of code while a specified condition is true

The For Loop

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The for loop has the following syntax:

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

Statement 1 is executed (one time) before the execution of the code block.

Statement 2 defines 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 i = 0; i < 5; i++) {  
    text += "The number is " + i + "<br>";  
}
```

Output :

The number is 0

The number is 1

The number is 2

The number is 3

The number is 4

The For In Loop

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The JavaScript for in statement loops through the properties of an Object:

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

Example:

```
const person = {fname:"John", lname:"Doe", age:25};  
let text = "";  
for (let x in person) {  
  text += person[x];  
}
```

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Output :

John Doe 25

Example Explained :

- The for in loop iterates over a person object
- Each iteration returns a key (x)
- The key is used to access the value of the key
- The value of the key is person[x]

The For Of Loop

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The JavaScript for of statement loops through the values of an iterable object.

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

Example:

```
const cars = ["BMW", "Volvo", "Mini"];  
let text = "";  
for (let x of cars) {  
  text += x;  
}  
}
```

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Output :

BMW

Volvo

Mini

The While Loop

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The while loop loops through a block of code as long as a specified condition is true.

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

Example:

```
while (i < 10) {  
    text += "The number is " + i;  
    i++;  
}
```

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Output :

The number is 0

The number is 1

The number is 2

The number is 3

The number is 4

The number is 5

The number is 6

The number is 7

The number is 8

The number is 9

The Do While Loop

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The do while loop is a variant of the while loop. This loop will execute the code block once, before checking if the condition is true, then it will repeat the loop as long as the condition is true.

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

Example:

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```
do {  
    text += "The number is " + i;  
    i++;  
}  
while (i < 10);
```

Output :

The number is 0

The number is 1

The number is 2

The number is 3

The number is 4

The number is 5

The number is 6

The number is 7

The number is 8

The number is 9