PROSENSIA PVT LTD
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JavaScript Loops and Arrays

Introduction

Loops and arrays are fundamental concepts in JavaScript, allowing developers to efficiently store, manage, and iterate through data. Mastering them is key to writing clean, dynamic, and scalable code.

1. JavaScript Loops

Loops are used to execute a block of code repeatedly under certain conditions.

for Loop:
Used when the number of iterations is known.
Example:

```
for (let i = 0; i < 5; i++) {
 console.log(i);
}
```

while Loop:
Executes as long as the condition is true.
Example:

```
let i = 0;
while (i < 5) {
 console.log(i);
 i++;
}
```

do-while Loop:
Executes the block at least once before checking the condition.
Example:

```
let i = 0;
do {
 console.log(i);
 i++;
} while (i < 5);
```

2. JavaScript Arrays

Arrays are used to store multiple values in a single variable.

Creating Arrays:
```
let fruits = ['Apple', 'Banana', 'Mango'];
```

Accessing Elements:
```
fruits[0] // 'Apple'
```

Array Methods:
- push(): Add to end
- pop(): Remove from end
- shift(): Remove from start
- unshift(): Add to start
- forEach(): Loop through elements

Example:
```
fruits.forEach(function(fruit) {
 console.log(fruit);
});
```

Summary

Loops allow repetitive tasks to be automated, while arrays provide structured ways to store and access data. Combining both enables efficient data handling in any JavaScript application.