Training Day18 report

2 July 2024

JavaScript String Methods:

Basic String Methods

Javascript strings are primitive and immutable: All string methods produce a new string without altering the original string.

String length
String charAt()
String charCodeAt()
String at()
String [ ]
String slice()
String substring()
String substr()
String toUpperCase()
String toLowerCase()
String concat()
String trim()
String trimStart()
String trimEnd()
String padStart()
String padEnd()
String repeat()
String replace()
String replaceAll()
String split()
String Search Methods
String Templates

1. **String length:** The length property returns the length of a string.

Extracting String Characters:

There are 4 methods for extracting string characters:

- The at(*position*) Method
- The charAt(*position*) Method
- The charCodeAt(*position*) Method
- Using property access [] like in arrays

2. **String charAt():**The charAt() method returns the character at a specified index (position) in a string.

3. **String charCodeAt():** The charCodeAt() method returns the code of the character at a specified index in a string. The method returns a UTF-16 code (an integer between 0 and 65535).

4. **StringAt():** ES2022 introduced the string method at().

Note: The at() method is a new addition to JavaScript.

It allows the use of negative indexes while charAt() do not.

Now you can use myString.at(-2) instead of charAt(myString.length-2).

Extracting String Parts:

There are 3 methods for extracting a part of a string:

- slice(*start*, *end*)
- substring(*start*, *end*)
- substr(*start*, *length*)

5. **JavaScript String slice():**slice() extracts a part of a string and returns the extracted part in a new string.The method takes 2 parameters: start position, and end position (end not included).
6. **JavaScript String substring():**substring() is similar to slice().The difference is that start and end values less than 0 are treated as 0 in substring().
7. **JavaScript String substr():**substr() is similar to slice().The difference is that the second parameter specifies the **length** of the extracted part.
8. **Converting to Upper and Lower Case:**A string is converted to upper case with toUpperCase(). A string is converted to lower case with toLowerCase().
9. **JavaScript String concat():**concat() joins two or more strings. The concat() method can be used instead of the plus operator.
10. **JavaScript String trim():**The trim() method removes whitespace from both sides of a string.
11. **JavaScript String trimStart():**ECMAScript 2019 added the String method trimStart() to JavaScript.The trimStart() method works like trim(), but removes whitespace only from the start of a string.
12. **JavaScript String trimEnd():**ECMAScript 2019 added the string method trimEnd() to JavaScript.The trimEnd() method works like trim(), but removes whitespace only from the end of a string.
13. **JavaScript String padStart():**The padStart() method pads a string from the start.It pads a string with another string (multiple times) until it reaches a given length.
14. **JavaScript String padEnd():**The padEnd() method pads a string from the end.It pads a string with another string (multiple times) until it reaches a given length.
15. **JavaScript String repeat():**The repeat() method returns a string with a number of copies of a string.The repeat() method returns a new string.The repeat() method does not change the original string.

Program:

```
let text = "ABCDEFGHIJKLMNOPQRSTUVWXYZ";
let length = text.length;
console.log("Length of text:", length);

let type = "HELLO WORLD";
let char1 = type.charAt(0);
console.log("First character of type:", char1);

text = "HELLO WORLD";
let char2 = text.charCodeAt(0);
console.log("Character code of first character of text:", char2);

const name = "W3Schools";
let letter = name.at(2);
console.log("Third character of name:", letter);

text = "Apple, Banana, Kiwi";
let part1 = text.slice(7, 13);
console.log("Slice of text (7, 13):", part1);

part1 = text.slice(7);
console.log("Slice of text from 7:", part1);

part1 = text.slice(-12);
console.log("Slice of text from -12:", part1);

let str = "Apple, Banana, Kiwi";
let part2 = str.substring(7, 13);
console.log("Substring of str (7, 13):", part2);

part2 = str.substr(7, 6);
console.log("Substr of str (7, 6):", part2);

let text1 = "Hello World!";
let text2 = text1.toUpperCase();
console.log("text1 to uppercase:", text2);

text2 = text1.toLowerCase();
console.log("text1 to lowercase:", text2);

let text3 = text1.concat(" ", text2);
console.log("Concatenation of text1 and text2:", text3);
```

```
text1 = "      Hello World!      ";
text2 = text1.trim();
console.log("Trimmed text1:", text2);

text1 = "     Hello World!     ";
text2 = text1.trimStart();
console.log("Trimmed start of text1:", text2);

text2 = text1.trimEnd();
console.log("Trimmed end of text1:", text2);

text = "5";
let padded1 = text.padStart(4, "0");
console.log("Padded start of text:", padded1);

let padded2 = text.padEnd(4, "0");
console.log("Padded end of text:", padded2);

text = "Hello world!";
let result = text.repeat(2);
console.log("Repeated text:", result);
```

Output:

PS C:\Users\dell\Documents\Javascript.js> node
"c:\Users\dell\Documents\Javascript.js\string.js"
Length of text: 26
First character of type: H
Character code of first character of text: 72
Third character of name: S
Slice of text (7, 13): Banana
Slice of text from 7: Banana, Kiwi
Slice of text from -12: Banana, Kiwi
Substring of str (7, 13): Banana
Substr of str (7, 6): Banana
text1 to uppercase: HELLO WORLD!
text1 to lowercase: hello world!
Concatenation of text1 and text2: Hello World! hello world!
Trimmed text1: Hello World!
Trimmed start of text1: Hello World!

Trimmed end of text1: Hello World!
Padded start of text: 0005
Padded end of text: 5000
Repeated text: Hello world!Hello world!