STARX INNVOVATIONS AND IT SOLUTIONS

📖 JavaScript Strings

◈ What is a String?

- A **string** in JavaScript is a sequence of characters enclosed in **single quotes (' ')**, **double quotes (" ")**, or **backticks ( )**.

- Strings are used to represent and manipulate text.

let str1 = "Hello";

let str2 = 'World';

let str3 = `Hello World`; // template literal

◈ Template Literals (ES6 feature)

- Use backticks ` to allow **variables** and **expressions** inside strings.

let name = "Mayur";

let greeting = `Hello, ${name}!`;

console.log(greeting); // Hello, Mayur!

◈ Most Used String Methods

1. length

- Returns the number of characters in a string.

let str = "JavaScript";

console.log(str.length); // 10

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2. toUpperCase() / toLowerCase()

- Converts string to uppercase or lowercase.

let text = "Hello";

console.log(text.toUpperCase()); // HELLO

console.log(text.toLowerCase()); // hello

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3. charAt(index)

- Returns the character at a given index.

let str = "Hello";

console.log(str.charAt(1)); // e

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4. indexOf() / lastIndexOf()

- Finds the position of first/last occurrence of a substring. Returns -1 if not found.

let str = "JavaScript is fun";

console.log(str.indexOf("a"));   // 1

console.log(str.lastIndexOf("a")); // 3

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5. slice(start, end)

- Extracts a part of string (end not included).

let str = "JavaScript";

console.log(str.slice(0, 4)); // Java

console.log(str.slice(-6));   // Script

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6. substring(start, end)

- Similar to slice(), but doesn't accept negative values.

let str = "JavaScript";

console.log(str.substring(0, 4)); // Java

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7. substr(start, length) (⚠ Deprecated, avoid in new code)

let str = "JavaScript";

console.log(str.substr(0, 4)); // Java

---

8. replace() / replaceAll()

- Replaces first match or all matches of a substring.

let text = "I love JavaScript";

console.log(text.replace("JavaScript", "Python"));

// I love Python

let txt = "apple, apple, apple";

console.log(txt.replaceAll("apple", "orange"));

// orange, orange, orange

9. trim() / trimStart() / trimEnd()

- Removes whitespace from both ends of a string.

let str = "   Hello World   ";

console.log(str.trim()); // "Hello World"

10. split()

- Splits string into an array.

let str = "a,b,c,d";

console.log(str.split(",")); // ["a", "b", "c", "d"]

11. includes()

- Checks if a string contains a substring (returns true/false).

let str = "JavaScript";

console.log(str.includes("Script")); // true

console.log(str.includes("Java", 1)); // false

12. startsWith() / endsWith()

- Checks whether string starts/ends with given substring.

let str = "Hello World";

console.log(str.startsWith("Hello")); // true

console.log(str.endsWith("World"));   // true

13. concat()

- Joins two or more strings.

let str1 = "Hello";

let str2 = "World";

console.log(str1.concat(" ", str2)); // Hello World

14. repeat(n)

- Returns a new string repeated n times.

```
let str = "Hi ";

console.log(str.repeat(3)); // Hi Hi Hi
```

◈ Summary (Most Used Methods)

☞ length, toUpperCase(), toLowerCase(), charAt(),

☞ indexOf(), slice(), substring(), replace(),

☞ trim(), split(), includes(), startsWith(), endsWith(), concat(), repeat().

```
let str = "Hi ";

console.log(str.repeat(3)); // Hi Hi Hi
```