# Assignment for Day 3grinning faceherbrocket

### ****1. List all the Escape Sequence characters in JavaScript****

**Answer :** Escape sequences are special characters in a string, starting with a backslash (\). They are used to represent characters that are hard to type directly.

| **Escape Sequence** | **Description** |
| --- | --- |
| \' | Single quote |
| \" | Double quote |
| \\ | Backslash |
| \n | New line |
| \r | Carriage return |
| \t | Tab |
| \b | Backspace |
| \f | Form feed |
| \v | Vertical tab (rare) |
| \uXXXX | Unicode character |
| \xXX | ASCII character (hex) |

**Example:**

js

let str = "Hello\nWorld";

console.log(str); // Outputs in two lines: Hello (newline) World

### ****2. Explain with example**** length ****and**** substring ****methods in JavaScript****

**Answer :**

* length: Gives the number of characters in a string.
* substring(start, end): Extracts characters from the string, starting from start to before end.

**Example:**

js

let text = "JavaScript";console.log(text.length); // 10

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

console.log(text.substring(4)); // "Script" (till end)

### ****3. What are**** padStart ****and**** padEnd ****in JavaScript? Explain with an example.****

**Answer :** These methods **add extra characters** to the beginning or end of a string to reach a desired length.

* padStart(targetLength, padString): Pads at the **start**.
* padEnd(targetLength, padString): Pads at the **end**.

**Example:**

js

let num = "5";

console.log(num.padStart(3, "0")); // "005"

console.log(num.padEnd(3, "\*")); // "5\*\*"

Useful in formatting numbers, such as adding leading zeros or aligning values.

### ****4. Define Global Object in JavaScript along with the global scope****

**Answer :** The **Global Object** is the top-level object that is accessible everywhere in your JavaScript code.

* In **browsers**, it's window
* In **Node.js**, it's global
* It contains built-in functions like parseInt, setTimeout, and properties like console, Math, etc.
* **Global Scope** means variables or functions declared **outside any function or block** — they can be accessed from anywhere.

**Example:**

js

var x = 10; // Global scope

console.log(window.x); // 10 (in browser)

### ****5. List all the names of JavaScript engines present currently****

**Answer :** JavaScript engines are the programs that read and run JavaScript code. Here are the major ones:

| **Engine Name** | **Used In** |
| --- | --- |
| **V8** | Google Chrome, Node.js |
| **SpiderMonkey** | Mozilla Firefox |
| **JavaScriptCore** (a.k.a. Nitro) | Safari (Apple) |
| **Chakra** | Microsoft Edge (older versions) |
| **Hermes** | React Native (by Meta/Facebook) |
| **Duktape** | Embedded systems |
| **QuickJS** | Lightweight embedded systems |