**Lab MAD Assignment**

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**JavaScript string functions:**

JavaScript provides a variety of built-in string functions to manipulate and work with strings. Here are some of the most commonly used string functions in JavaScript:

* charAt(index): Returns the character at the specified index in a string.
* concat(string1, string2, ... , stringN): Combines two or more strings and returns the concatenated string.
* indexOf(substring, start): Returns the index of the first occurrence of a specified substring within a string, starting from the specified index or from the beginning if no index is specified.
* lastIndexOf(substring, start): Returns the index of the last occurrence of a specified substring within a string, starting from the specified index or from the end if no index is specified.
* replace(searchValue, replaceValue): Returns a new string with all occurrences of a specified search value replaced with a replacement value.
* slice(start, end): Returns a substring of a string from the specified start index to the specified end index.
* substr(start, length): Returns a substring of a string starting from the specified start index and including the specified number of characters.
* substring(start, end): Returns a substring of a string from the specified start index to the specified end index.
* toLowerCase(): Returns a new string with all uppercase characters converted to lowercase.
* toUpperCase(): Returns a new string with all lowercase characters converted to uppercase.
* trim(): Returns a new string with all leading and trailing whitespace removed.
* split(separator, limit): Returns an array of substrings by splitting a string into substrings using a specified separator. An optional limit parameter can be used to limit the number of substrings returned.

**JavaScript array functions:**

JavaScript has many built-in functions that allow you to work with arrays, including the following:

* push: adds one or more elements to the end of an array.
* pop: removes and returns the last element of an array.
* shift: removes and returns the first element of an array.
* unshift: adds one or more elements to the beginning of an array.
* concat: combines two or more arrays into a new array.
* slice: extracts a section of an array and returns a new array.
* splice: adds or removes elements from an array at a specific index.
* indexOf: returns the index of the first occurrence of a specified value in an array.
* lastIndexOf: returns the index of the last occurrence of a specified value in an array.
* sort: sorts the elements of an array.
* reverse: reverses the order of the elements in an array.
* filter: creates a new array with all elements that pass a test.
* map: creates a new array with the results of calling a function on each element in an array.
* reduce: applies a function to each element in an array and returns a single value.
* forEach: calls a function for each element in an array.