Amrutvahini College of Engineering, Sangamner
Department of Electronics and Telecommunication Engineering
Subject: JavaScript (Elective-III) (BE, E&TC)

Experiment No.: 03

Date of Performance:

TITLE: Perform operation on String data type

Aim: Write a JavaScript program to perform operation on String data type.

Problem Statement:

Write a JavaScript program to following operations on a given string,

i. Reverse string

ii. Replace characters of a string

iii String is Palindrome

Objective:

1. Learn basics of how to use document object.
2. Learn different tokens and operators used in JavaScript.
3. To learn looping in JavaScript.

Hardware Requirement:

Any CPU with Pentium Processor or similar, 256 MB RAM or more, 1 GB Hard Disk or more

Software Requirement:

- **IDE Software:** Visual Studio Code / Sublime Text3
- **Web Browser:** Google Chrome / Firefox/ Internet Explorer.
- **Operating System:** Windows 7/10, Linux or MAC OS

Theory:

Strings are useful for holding data that can be represented in text form. Some of the most-used operations on strings are to check their length, to build and concatenate them using the + and += string operators, checking for the existence or location of substrings with the indexOf() method, or extracting substrings with the substring() method.

Creating strings

Strings can be created as primitives, from string literals, or as objects, using the String()

constructor:

```
const string1 = "A string primitive";
const string2 = 'Also a string primitive';
const string3 = `Yet another string primitive`;
Const string4 = new String("A String object");
```

String primitives and string objects share many behaviors, but have other important differences and caveats.

String literals can be specified using single or double quotes, which are treated identically, or using the backtick character `.

This last form specifies a template literal: with this form you can interpolate expressions.

Character access

There are two ways to access an individual character in a string. The first is the charAt() method:

```
'cat'.charAt(1) // gives value "a"
```

Comparing strings

In C, the strcmp() function is used for comparing strings. In JavaScript, you just use the less-than and greater-than operators:

```
const a = 'a';
const b = 'b';
if (a < b) {       // true
  console.log(`${a} is less than ${b}`)
} else if (a > b) {
  console.log(`${a} is greater than ${b}`)
} else {
  console.log(`${a} and ${b} are equal.`)
}
```

A similar result can be achieved using the localeCompare() method inherited by String instances.

Note that a === b compares the strings in a and b for being equal in the usual case-sensitive way. If you wish to compare without regard to upper- or lower-case characters, use a function similar to this:

```
function isEqual(str1, str2) {
  return str1.toUpperCase() === str2.toUpperCase();
}
```

Escape sequences

Special characters can be encoded using escape sequences:

Code	**Result**
\b	Backspace
\f	Form Feed
\n	New Line
\r	Carriage Return
\t	Horizontal Tabulator
\v	Vertical Tabulator

Conclusion:

____

____

____

____

____

Review Questions:

1. What is use length operator in String variable?
2. List any five methods related to String data type and explain their use.
3. How to represent the following string using string variable:

   “I am in ‘AVCOE’ institute’s ETC Dept”.
4. Briefly explain any three JavaScript search methods for string.

REFERENCES:

1. Jon Duckett, “JavaScript & JQuery: Interactive Front-End Web Development”, Wiley, ISBN-13. 978-1118531648

2. David Flanagan, “JavaScript: The Definitive Guide”, O’Reilly, 6th Edition, ISBN: 9781491952023.

3. Mike Mackgrath, “Javascripts in easy steps” Dreamtech