
Lab 06

JavaScript Basics

Objective:

To familiarize the students with Java Script.

Activity Outcomes:

After this lab the students should be able to understand

- Java Script basics
- validate the form using Java Script.

Instructor Note:

As pre-lab activity, read Chapter 8 from the textbook “Web Programming with HTML5, CSS, and JavaScript Pap/Psc John Dean, Year 2018

1) Useful Concepts

Introduction

JavaScript is used in millions of Web pages to improve the design, validate forms, detect browsers, create cookies, and much more. JavaScript is the most popular scripting language on the internet, and works in all major browsers, such as Internet Explorer, Mozilla, Firefox, Netscape, Opera.

How to Put a JavaScript Into an HTML Page?

JavaScript can be embedded into HTML two ways

Inter script: `<script>`, `</script>` tags are used to start and end a javascript block

External script: JavaScript is written in a seprate file and included in the HTML file using src attribute of the `<script>`. Example

```
<script src="myscripts.js"> </script>
```

Variables in JavaScript:

JavaScript provides numbers, string, boolean, and null variable types. JavaScript is a loosely typed language. var keyword is used to declare a variable. We can declare a variable in JavaScript as

var name='Asad';

Operats in JavaScript:

- Assignment Operator: =
- Arithmetic Operators: +, -, *, /, %, ++, --
- Logical Operators: &&, ||, !
- Comparison Operators: ==, ===, !=, !==, <, >, <=, >=

Input/output in JavaScript:

- write(); is used to write on browser
 - o document.write("hello world")
 - o document.write(a)
- prompt(); is used to take input from users
 - o var num = prompt("Please Enter a Number", 0)
- alert(): used to show an alert box

Defining a function :

```
function functionName([parameters])
{
[statements]
}
```

Conditional statements:

If statement if (condition) statement

or

if(condition)

{ statements } If-else statement if(condition)

{ statement } else

{ statements }

Loops in JavaScript:

For loop

for(var i=1; i==10; i==)

{

Document.write("hello world")

}

While loop

While(condition)

{

}

```
Do-while loop
do
{
}
while(condition)
```

2) Solved Lab Activites

Activity 1:

Use JS Input/output, variables, Functions, Conditional statements, Loops.

Input/output and variables:

```
<html>
<head>
<title>Untitled Document</title>
</head>
<body>
<script language="javascript">
var num=prompt("Pleae Enter a Number",0) document.write("You Entered ",num)
</script>
</body>
</html>
```

Functions:

```
<html>
<head>
<title>Untitled Document</title>
<script language="javascript"> function getName()
{
var name=prompt("Pleae enter your name",'name') document.write("Welcome Mr. ",name)
}
</script>
</head>
<body onload="getName()">
</body>
```

Conditional statement:

```
<html>
<head>

<title>Using If condition</title>
<script language="javascript"> function playGame()
{
var res=Math.round(Math.random()*10) var num=prompt("Pleae a number",0) if(num==res)
document.write("You Won") else
document.write("Your loss, correct Answer is"
,res)
}
</script>
</head>
<body>
<button onClick="playGame()">Play the Game</button>
</body>
</html>
```

3) Graded Lab Tasks

Lab Task 1-3

- Write the javascript code which asks the users to enter a number or zero to end taking the input. When user enters a 0 the program displays the sum.
- Write a javascript function which displays a question in prompt box and gets its answer. If the answer is correct then shows a success message otherwise displays a error message.
- Write javascript code which asks users to enter a number, a message and displays that message for the number of times as entered by the user

Lab Task 4:

- Write a JS code to validate the signup form in Lab 3.