

Lab Exercise 04– Add JavaScript to a Web Page.

Objectives

To get familiarized with basic programming constructs and functions in JavaScript.

Prerequisites

HTML5 knowledge and basic programming skills.

Exercise 1: JavaScript Basics

In this example you will learn,

1. How alert works
2. How to define and assign values to variables
3. Js comments, basic arithmetic operations

```
<!DOCTYPE html>
<html>
<head>
<link href="stylesheets/styleSheet.css" rel="stylesheet" type="text/css">
</head>
<body>
<h1 id="demo"></h1>
<p>value of ( 16+2 ) is : <h3 id="add"></h3></p>
<br>
<p>value of ( 84%10 ) is : <h3 id="module"></h3></p>
<br>
<script>
var firstName= "YourName";/* define a variable type var and assign a value to it*/
var lastName="YourLastName";
age=16; //identify as integer
var newAge="16";//consider as a string.
//arithmetics
add = 16 + 2;//addition
remain=84%10;//Modulus - It returns the remainder after the division

var firstName ="YourName" , lastName="YourLastName";//multiple lines also work
var changedage="16";//consider as a string.
document.write(firstName+" " +lastName+ " is celebrating your " + (add));
document.getElementById("demo").innerHTML = firstName+" " +lastName+ " is celebrating your " + (add);
document.getElementById("add").innerHTML =add;
document.getElementById("module").innerHTML =remain;
</script>
</body>
</html>
```

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Stylesheet.css

```
h1{
  color:#00bcd4;
}
h3 , p{
  display:inline !important;
}
#add, #module{
  color:red;
}
```

Assignment 1

There are 52 students in a batch, 11 of them not following the module SE125. Students who follow SE125 are divided in to groups, maximum per group is 6. Each student gets 3 booklets for SE125. Use js arithmetic operation and find the number of groups, number of members in the last group, number of booklets needed and display them inside html tags.

Exercise 2: JavaScript functions

In this example you will learn

1. How the button “onclick” action works
2. How to change html content dynamically with onclick
3. How to define a javascript function and how to call that
4. How to change html content dynamically with onclick

Code

```
<!DOCTYPE html>
<html>
<head>
</head>
<body>

<p id="description"></p>
<button onclick="document.getElementById('myImage').src='blue_car.jpg'"></button>
<button onclick="document.getElementById('myImage').src='red_car.jpg'"></button>
<button onclick="document.getElementById('myImage').src='ash_car.jpg'"></button>
<button type="button" onclick="myFunction()"></button>

<script>
function myFunction() {
  document.getElementById("description").innerHTML = "This is my green car";
  document.getElementById("myImage").src = "green_car.jpg";
}
</script>
</body>
</html>
|
```



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Assignment 2

Create two more color cars (light blue and white). Write functions to each onclick and add appropriate descriptions to each car which changes with onclick action.

Exercise 3: Conditional Statements

In this example you will learn

1. How to include external javascript file
2. How the conditions, if else work
3. How to display the results using alert

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<pre> h1{ color:#00bcd4; } h3{ display:inline !important; } #add, #module{ color:red; } p{ color:green; font-weight:bold; } </pre>	<pre> function marksgrade() { if (document.form1.text1.value >=90) alert('Grade A+'); else if (document.form1.text1.value >=80 && document.form1.text1.value <90) { alert('Grade A'); } else if (document.form1.text1.value >=70 && document.form1.text1.value <80) { alert('Grade B+'); } else if (document.form1.text1.value >=60 && document.form1.text1.value <70) { alert('Grade B'); } else alert('Grade C'); } } </pre>
Stylesheet.css	if-else-if-example.js

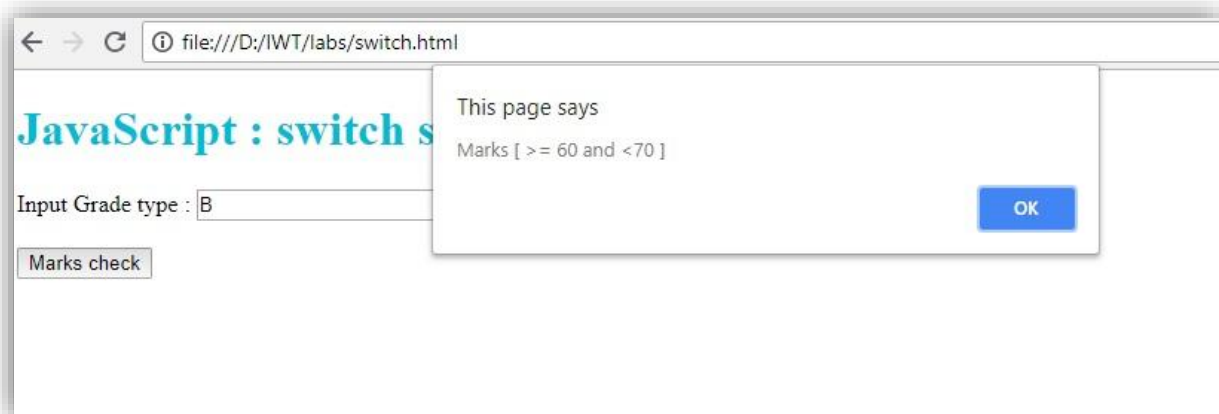
if-else.html

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset=utf-8>
<title>JavaScript if else if... statement : Example-1</title>
<link href="stylesheets/style.css" rel="stylesheet" type="text/css">
<script src="scripts/if-else-if-example.js"></script>
</head>
<body>
<h1>JavaScript : if else if statement</h1>
<h3>Here the if else if.. statement check the grade of Math
with following condition : </h3>
<hr />
<p id="des">A+ (marks>=90) : A (marks>=80 and marks<90) :
B+ (marks>=70 and marks<80) : B (marks>=60
and marks<70) : C (marks<60) </p>
<form name="form1" action="#">
<h3>Input the Math marks</h3>&nbsp;&nbsp;&nbsp;<input type="text" name="text1" value=" " />
<br /><br />
<input type="button" value="Marks check"
onclick='marksgrade()' />
</form>
</body>
</html>
```

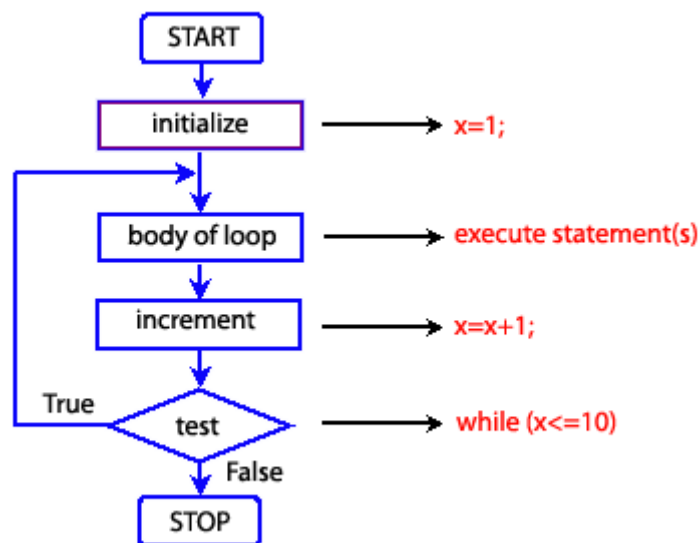
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Assignment 3

Write a switch statement to display the following output.



Exercise 4: Loops (do-while, while, for)



The following web document calculates the sum of even numbers between 0 to 10. The do while loop starts with $x = 0$ and runs until it equals to 10. If the remainder of $x/2$ is equals to 0 we add x with y and after completion of the loop, y returns the sum of even numbers.



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```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset=utf-8>
<title>JavaScript do while statement</title>
<link href="stylesheets/styleSheet.css" rel="stylesheet" type="text/css">
</head>
<body>
<h1>JavaScript : do while statement</h1>
<h3> The do while loop calculate the sum of even numbers between 0 to 10. </h3>
<p id="result">Output will be displayed here.</p>
<script src="scripts/do-while.js"></script>
</body>
</html>
</body>
</html>
```

```
var x = 1;
var y = 0;
var z = 0;
document.getElementById("result").innerHTML = "List of numbers : ";
do
{
z = x % 2;
if (z == 0)
{
y=y+x;
document.write(x + "<br/>");
}
x++;
}
while (x <=10 );
document.write("<b>The sum of even numbers between 0 to 10 is : " + y);
```

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For loop

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset=utf-8>
<title>JavaScript for statement</title>
<link href="stylesheets/styleSheet.css" rel="stylesheet" type="text/css">

</head>
<body>
<h1>JavaScript : for statement</h1>
<p id="result">Output will be displayed here.</p>
<script>
var r = 0;
var z = 0;
for (r = 1; r<11; r++) {
  z = z + r;
  document.write("<p>"+r+' ---> '+z +"</p>");
  //document.getElementById("result").innerHTML="<p>"+r+' ---> '+z +"</p>";
}
</script>
</body>
</html>
```

Assignment 04

Draw a flowchart to show how for loop works

Write a code to calculates the sum of **odd** numbers between 0 to 10 using **while** loop

Write a for loop to display the below star pattern

```
*
**
***
****
*****
```