Lab4: Scripting techniques

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Chapter 5- JavaScript – An Introduction

Check your progress

I. Fill in the blanks

a. ECMA – 262 b. bytecode c. SCRIPT d. HEAD

e. src f. expression g. NOSCRIPT

II. State whether True or False

a. T b. T c. T d. F e. F f. T

Exercise 1

Write scripts that use methods to display the following:

a. Learning JavaScript (heading – centered)

```
<HTML>
<HEAD>
<SCRIPT LANGUAGE = "JavaScript">
document.write("<H2><CENTER>Learning JavaScript</CENTER></H2>")
</SCRIPT>
</HEAD>
</HTML>
```

b. Are you having fun? (Paragraph color hotpink)

```
<HTML>
<HEAD>
<SCRIPT LANGUAGE = "JavaScript">
document.write ("<P><FONT color = hotpink>Are you having fun</FONT></P>")
</SCRIPT>
</HEAD>
</HTML>
```

c. Press OK to continue.

```
<HTML>
<HEAD>
<SCRIPT LANGUAGE = "JavaScript">
confirm ("Press OK to continue");
</SCRIPT>
</HEAD>
</HTML>
```

Write a script that uses an external source file to display the following message:

“I have been loaded from an external file.”

```
<HTML>
<HEAD>
<SCRIPT src = "external.js">
</SCRIPT>
</HEAD>
</HTML>
```

```
document.write("I have been loaded from an external file")
```

Chapter 6- Variables, Data Types and Operators

Check your progress

I. State whether True or False

a. F b. T c. F d. F e. T f. F

g. T h. T i. F j. F

II. Fill in the blanks

a. variable b. literal c. backslash d. Boolean

e. unary f. A = A * B g. = = h. two

i. Bitwise j. Arrays

Exercise 1

Write a script that accepts the user's name and assigns it to a variable. Use the variable to display a personalized greeting.

```
<HTML>

<HEAD>

<SCRIPT LANGUAGE = "JavaScript">

var x;

x = prompt("Enter your name", "");

alert("Welcome to JavaScript      " + x);

</SCRIPT>

</HEAD>

</HTML>
```

Exercise 2

Write a script that displays the data type of the following:

"I am having Fun"

123

```
<html>

<head>
```

```
<script language="JavaScript">
 var x = "I am having fun";
var y = 123;
        document.write("The data type of x is   " + typeof(x) + "<BR>");
        document.write("The data type of y is   " + typeof(y) + "<BR>");
</script>
</head>
</html>
```

2. Write a script that creates two new instances of an object car. The properties of the object are:

Manufacturer

Model

Year

Engine type (petrol or diesel)

```
<HTML>
<HEAD>
<SCRIPT LANGUAGE="JavaScript">
function car(manufacturer, model, year, engine) {
this.manufacturer = manufacturer
this.model = model
this.year = year
this.engine = engine
}
car1 = new car("Maruti", "Zen", "1998", "Petrol");
car2 = new car("Fiat", "Uno", "1998", "Diesel");
document.write("Manufacturer :   " + car1.manufacturer + "<BR>");
document.write("Model :   " + car1.model + "<BR>");
document.write("Year :   " + car1.year + "<BR>");
```

```
document.write("Engine :   " + car1.engine + "<BR><BR><BR>");

document.write("Manufacturer :   " + car2.manufacturer + "<BR>");

document.write("Model :   " + car2.model + "<BR>");

document.write("Year :   " + car2.year + "<BR>");

document.write("Engine :   " + car2.engine);

</SCRIPT>

</HTML>
```

Exercise 3

1.Write a script to locate the word “cat” in the string “The cat sat on the mat”

```
<HTML>

<HEAD>

<SCRIPT LANGUAGE="JavaScript">

  re = /cat/

  str = re.exec("The cat sat on the mat");

  window.alert(str);

</SCRIPT>

</HTML>
```

2. Write a script to accept the name and age of the user. Verify is the input age is between 21 and 35 years.

```
<HTML>

<HEAD>

<SCRIPT LANGUAGE="JavaScript">

function chkage() {

var age = document.form1.text2.value;

if (age < 18 || age > 35)

alert ("Sorry, you do not qualify");

}
```

```
</SCRIPT>
<BODY>
<FORM name = form1>
Enter your name :
<INPUT type = text name = text1><BR>
Enter your age :
<INPUT type = text name = text2 onChange="chkage(this)")>
</FORM>
</BODY>
</HTML>
```

Write a script that reverses the string “Reversal of Fortunes” Display the reversed string.

```
<HTML>
<HEAD>
<SCRIPT LANGUAGE="JavaScript">
str = "Reversal of Fortunes";
re = /(\w+)\s(\w+)\s(\w+)/;
newstr = str.replace(re, "$3 $2 $1");
document.write(newstr)
</SCRIPT>
</HTML>
```

Chapter 7- JavaScript statements

Check your progress

I. State whether True or False

a. F b. T c. T d. F e. F f. F

g. F

II. Fill in the blanks

a. statement b. conditional c. else

d. two preceding backslashes e. loops f. break

Exercise 1

1.Write a script that accepts a number between 1 and 10. Display an error message if the number entered is outside the specified range.

```
<HTML>
<HEAD>
<SCRIPT LANGUAGE="JavaScript">
function validnum (num) {
if (num < 1 || num > 10) {
alert("Out of range. Please try again");
}
}
</SCRIPT>
<BODY>
<FORM>
Please enter a number :
<INPUT type = text onChange = "validnum(this.value)">
</FORM>
</BODY>
```

```
</HTML>
```

Exercise 2

1. Write a script that displays the string “Having fun” 10 times. Each string should be on a separate line.

```
<HTML>
<HEAD>
<SCRIPT LANGUAGE = "JavaScript">
for (var num = 1; num <= 10; num+=1)
  document.write("Having fun" + "<BR>");
</SCRIPT>
</HEAD>
</HTML>
```

2. Write a script to display the items on the menu depending on the day of the week. The message should display “Today’s Special is *special for the day*”. The restaurant is closed on Saturday and Sunday.

```
<HTML>
<HEAD>
<SCRIPT LANGUAGE = "JavaScript">
var day = new Date();
day = day.getDay();
        switch (day){
  case 1 :
document.write("Today's Special is Baked vegetables and Cheese");
    break;
  case 2 :
document.write("Today's Special is Pizza");
    break;
case 3 :
```

```
document.write("Today's Special is Vegetable Fried Rice");
    break;
case 4 :
document.write("Today's Special is Bread Rolls");
    break;
case 5 :
document.write("Today's Special is Cheese Toast");
    break;
default :
document.write("We are closed today");
    break;
}
</SCRIPT>
</HEAD>
</HTML>
```

Exercise 3

1. Write a script to accept the name and age of the user. If the age is less than 18 then display a message “Sorry, you do not qualify”.

```
<HTML>
<HEAD>
<TITLE>Opening a Window</TITLE>
<SCRIPT LANGUAGE="JavaScript">
function doupper() {
document.form1.text1.value=document.form1.text1.value.toUpperCase();
}
function doage(){
var age = parseInt(document.form1.text2.value);
if (age < 18)
```

```
alert ("Sorry, you do not qualify");
}
</SCRIPT>
</HEAD>
<BODY>
<FORM name = form1>
Enter your name:
<INPUT TYPE=text name = text1 onChange="doupper()">
<BR>
Enter your age:
<INPUT TYPE=text name = text2 onChange="doage()">
</FORM>
</BODY>
</HTML>
```

Chapter 8- Using Objects

Check your progress

I. Fill in the blanks

a. object b. document.form.text1 c. window d. frame

e. platform f. String g. Textarea

II. State whether True or False

a. T b. T c. F d. T e. F f. T

g. T h. F

Exercises

1. Write a script to create three (one vertical and two horizontal) frames in a document. Load a different document in each frame

```
<HTML>
<HEAD>
<TITLE>Using frames</TITLE>
</HEAD>
<FRAMESET cols="20%, 80%">
  <FRAMESET rows="100, 200">
     <FRAME src="y.htm" >
     <FRAME src="x.htm">
  </FRAMESET>
  <FRAME src="a.htm">
</FRAMESET>
</HTML>
```

2. Write a script to display the following string in the status bar of a window “This is fun”.

```
<HTML>
<HEAD>
<SCRIPT LANGUAGE = "JavaScript">
window.status="This is fun"
</SCRIPT>
</HEAD>
</HTML>
```

3. Modify the script to open another window and display the following line in the status bar of the second window “This is fun”.

```
<HTML>
<HEAD>
<TITLE>Opening a Window</TITLE>
<SCRIPT LANGUAGE="JavaScript">
function openwin(){
var mysample;
  mysample=window.open("sample.htm");
mysample.status="This is fun";
}
</SCRIPT>
</HEAD>
<BODY>
<FORM>
<INPUT TYPE=BUTTON VALUE="Open Sample!" NAME="Sample" onclick="openwin()">
</FORM>
</BODY>
</HTML>
```

4. Modify the script to change the title of the first window to the status of the second window.

```
<HTML>
<HEAD>
<TITLE>Opening a Window</TITLE>
<SCRIPT LANGUAGE="JavaScript">
function openwin(){
var mysample;
  mysample=window.open("sample.htm");
mysample.status="This is fun";
document.title = mysample.status;
}
</SCRIPT>
</HEAD>
<BODY>
<FORM>
<INPUT TYPE=BUTTON VALUE="Open Sample!" NAME="Sample" onclick="openwin()">
</FORM>
</BODY>
</HTML>
```

Exercise 2

1. Write a script to display the day of the week on a page.

```
<HTML>
<HEAD>
<SCRIPT LANGUAGE = "JavaScript">
var day = new Date();
day = day.getDay();
        switch (day){
  case 0 :
```

```
document.write("Today is Sunday");
    break;
  case 1 :
document.write("Today is Monday");
    break;
  case 2 :
document.write("Today is Tuesday");
    break;
case 3 :
document.write("Today is Wednesday");
    break;
case 4 :
document.write("Today is Thursday");
    break;
case 5 :
document.write("Today is Friday");
    break;
case 6 :
document.write("Today is Saturday");
    break;
}
</SCRIPT>
</HEAD>
</HTML>
```

2. Write a script to display the current month on a page.

```
<HTML>
<HEAD>
<SCRIPT LANGUAGE = "JavaScript">
var month = new Date();
```

```
month = month.getMonth();
        switch (month){
  case 0 :
document.write("The month is January");
    break;
  case 1 :
document.write("The month is February");
    break;
  case 2 :
document.write("The month is March");
    break;
case 3 :
document.write("The month is April");
    break;
case 4 :
document.write("The month is May");
    break;
case 5 :
document.write("The month is June");
    break;
case 6 :
document.write("The month is July");
    break;
case 7 :
document.write("The month is August");
    break;
case 8 :
document.write("The month is September");
    break;
case 9 :
```

```
document.write("The month is October");
    break;
case 10 :
document.write("The month is November");
    break;
case 11 :
document.write("The month is December");
    break;
}
</SCRIPT>
</HEAD>
</HTML>
```

Exercise 3

1. Write a script to accept the following information from the user:

Name

Address

Telephone number

When the user submits the form, convert all text input to uppercase.

```
<HTML>
<HEAD>
<SCRIPT LANGUAGE = "JavaScript">
function dochange() {
document.form1.text2.value = document.form1.text2.value.toUpperCase();
document.form1.text1.value = document.form1.text1.value.toUpperCase();
}
</SCRIPT>
</HEAD>
<BODY>
```

<FORM name = form1>

Enter your name :

<INPUT type = text name = text1 value = "">

Enter your address :

<INPUT type = text name = text2 value = "">

Telephone number :

<INPUT type = text name = text3 value = "">

<INPUT type=button value="Change" onClick="dochange()">

</FORM></HTML>

Chapter 9- Handling Events

Check your progress

I. Fill in the blanks

a. event-driven b. event c. single d. onmousedown

e. onChange f. releaseCapture

II. State whether True or False

a. T b. F c. T d. F e. F f. F

Exercise 1

1.Write a script that changes the caption of a button when the user clicks on it.

```
<HTML>
<HEAD>
<SCRIPT LANGUAGE = "JavaScript">
function changename() {
document.form1.button1.value = "You clicked me";
}
</SCRIPT>
</HEAD>
<BODY>
<FORM name = form1>
<INPUT type = button name = button1 value = "Click Me" onClick = "changename()">
</FORM>
</BODY>
</HTML>
```

2. Write a script that accepts the user's name and displays the following message "Welcome to event handling username".

```
<HTML>
<HEAD>
<SCRIPT LANGUAGE = "JavaScript">
function greeting() {
var username = document.form1.text1.value;
alert("Welcome to event handling   " + username);
}
</SCRIPT>
</HEAD>
<BODY>
<FORM name = form1>
Enter your name  :
<INPUT type = text name = text1 onChange = "greeting()">
</FORM>
</BODY>
</HTML>
```

3.Write a script that changes the color of the document when the user moves away from a text box.

```
<HTML>
<BODY>
<FORM>
<INPUT type = text
onBlur="(document.bgColor='aqua')"
</FORM>
</BODY>
</HTML>
```

Create a web page that accepts information from the user and performs the following validation when the user submits the form.

Name - - cannot be blank

Address - - cannot be blank

Educational qualifications - - cannot be blank

Convert all text input to uppercase.

```
<HTML>
<HEAD>
<SCRIPT LANGUAGE = "JavaScript">
function dovalid() {
var name = (document.form1.text1.value);
var addr = (document.form1.text2.value);
var qualif = (document.form1.text3.value);
if(name == "")
alert ("Please enter your name");
else {
name.toUpperCase();
}
if(addr == "")
alert ("Please enter your address");
else {
addr.toUpperCase();
}
if(qualif == "")
alert ("Qualifications cannot be blank");
}
</SCRIPT>
</HEAD>
<BODY>
```

```
<FORM name = form1>
Enter your name :
<INPUT type = text name = text1 value = ""><BR>
Enter your address :
<INPUT type = text name = text2 value = ""><BR>
Educational qualifications :
<INPUT type = text name = text3 value = ""><BR><BR>
<INPUT type=button value="Confirm" onClick="dovalid()">
<INPUT type="reset">
</FORM>
</HTML>
```