Assignment Operators: (pg 45)

Following table shows all the assignment operators supported by javascript –

<table>
<thead>
<tr>
<th>Operator</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>=</td>
<td>Assignment operator</td>
<td>C = A + B will assign value of A + B into C</td>
</tr>
<tr>
<td></td>
<td>Assigns values from right side operands to left side operand.</td>
<td></td>
</tr>
</tbody>
</table>
Relational operators are used to check conditions or comparison of operands.

Following table shows all the comparison operators supported by JavaScript –

<table>
<thead>
<tr>
<th>Operator</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>==</code></td>
<td>Checks if values of two operands are equal or not, If yes then condition becomes true.</td>
<td><code>10 == 10</code> will give true</td>
</tr>
<tr>
<td><code>!=</code></td>
<td><strong>Not Equal to operator</strong>&lt;br&gt;Checks if the value of two operands is equal or not, if values are not equal then condition becomes true.</td>
<td><code>10 !=10</code> will give false</td>
</tr>
<tr>
<td><code>&gt;</code></td>
<td><strong>Greater Than operator</strong>&lt;br&gt;Checks if the value of left operand is greater than the value of right operand, if yes then condition becomes true.</td>
<td><code>20 &gt; 10</code> will give true</td>
</tr>
<tr>
<td><code>&lt;</code></td>
<td><strong>Less than operator</strong>&lt;br&gt;Checks if the value of left operand is less than the value of right operand, if yes then condition becomes true.</td>
<td><code>10 &lt; 20</code> will give true</td>
</tr>
<tr>
<td><code>&gt;=</code></td>
<td><strong>Greater than or equal to operator</strong>&lt;br&gt;Checks if the value of left operand is greater than or equal to the value of right operand, if yes then condition becomes true.</td>
<td><code>10 &gt;=20</code> will give false</td>
</tr>
<tr>
<td><code>&lt;=</code></td>
<td><strong>Less than or equal to operator</strong>&lt;br&gt;Checks if the value of left operand is less than or equal to the value of right operand, if yes then condition becomes true.</td>
<td><code>10 &lt;=20</code> will give true.</td>
</tr>
</tbody>
</table>
Logical Operators : (pg 46)

Logical operators are used to verify more than one condition at a time or to negate the condition.

Following table shows all the logical operators supported by javascript –

<table>
<thead>
<tr>
<th>Operator</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>&amp;&amp;</td>
<td>Logical AND operator returns true if both operands are non zero. <em>(Both the conditions should be true)</em></td>
<td>10 &amp;&amp; 10 will give true.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>!</td>
<td>Logical NOT operator complements the logical state of its operand.</td>
<td>! (10 &amp;&amp; 10) will give false.</td>
</tr>
</tbody>
</table>

Example :

```html
<html>
<body>
<script language = “javascript”>
var a=15;
var b=18;
if(a>b) && (b<a)
{
document.write (“You are a teenager”) 
}
</script> </body> </html>
```
I.T Worksheet-11

Marks:40
Duration:1.5 hrs

I Fill in the blanks 09M

1. _______ operator sign assigns values from right side operands to left side operand.
2. _______ operator sign checks if values of two operands are equal or not.
3. _______ operator is used to verify more than one condition at a time.
4. _______ operators are used to check conditions or comparison of operands.
5. _______ operator sign stands for Not Equal to operator.
6. _______ operator sign verifies both the conditions should be true.
7. _______ operator sign verifies any one of the conditions should be true.
8. _______ operator sign complements the logical state of its operand.
9. _______ operator sign is used for assigning value to a variable in JavaScript.

II True or False 07M

1. == checks if values of two operands are equal or not,
2. Assignment operator assigns values from right side operands to left side operand.
3. Logical operators are used to verify more than one conditions at a time.
4. In && operator sign any one of the conditions should be true.
5. a==b is an example of assignment operator.
6. != is a logical operator.
7. > , < are relational operators.

III Match the following: 04M

1. !(0) a. Relational Operator
2. && b. Assignment Operator
3. = c. Logical Operator
4. == d. Returns true

IV Programs: 20M

1. Write a JavaScript program to use the correct assignment operator that will result in x being 15(same as x=x+y).
2. Write the output (Boolean value) for the following JavaScript program

```html
<html><body>
<script language="javascript">
var x=5; var result=(x!=5)
document.write(result)
</script></body></html>
```

3. Write the output (Boolean value) for the following JavaScript program

```html
<html><body>
<script language="javascript">
var x=6,y=3; var result=(x<10) &&(y>1)
document.write (result)
</script></body></html>
```

4. Write the output (Boolean value) for the following JavaScript program

```html
<html><body>
<script language="javascript">
var x=5,y=2;var result=(x==5)||(y==5)
document.write(result)
</script></body></html>
```
Increment (++) and Decrement (--) Operators:

(pg 47)

- Increment (++) operator in JavaScript is used to increment value of variable by one.
- Decrement operator in JavaScript is used to decrement value of variable by one.

<table>
<thead>
<tr>
<th>Operator</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
</table>
| ++x      | Pre-increment. Value of variable x is incremented before it is used in expression | a = 10  
b = ++a  
Ans  
a, b = 11 |
### Comments in JavaScript (pg 47)

- Comments are non-executable statements in program.
- Comments are used to provide information or explanation about your programming construct.

1. **Single line comment** : (//) The JavaScript ignores everything from // to the end of the line.

2. **Multiline comment** : (/*--*/) Multiline comments are used to comment on more than one line.

### Built-in functions : (pg 48)

- Function is used to perform repetitive tasks whenever required.
- It is reusable code-block that will be executed when it is called.
<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>parseInt()</td>
<td>It converts string into integer</td>
</tr>
<tr>
<td>parseFloat()</td>
<td>It converts string into floating point numbers i.e decimal values.</td>
</tr>
<tr>
<td>alert()</td>
<td>It displays a message box / popup box with OK button</td>
</tr>
<tr>
<td>prompt()</td>
<td>It is used to receive input from the user</td>
</tr>
</tbody>
</table>
I.T Worksheet-12

Marks:40
Duration:1.5 hrs

I Fill in the blanks 09M

1. ________operator increments value of variable before it is used.
2. Single line comment begins with ______.
3. ________displays a dialogue box with OK button.
4. ________converts string into whole numbers.
5. ________operator increments value of variable after it is used.
6. ________converts string into floating point numbers.
7. ________function receives input from the user.
8. ________is used to perform repetitive tasks whenever required.
9. ________operator decrements value of variable before it is used.

II True or False 07M

1. ++a is post-increment operator.
2. parseInt() receives input in form of whole numbers only.
3. /*… */ is used for multiline comments.
4. a-- is post-decrement operator.
5. alert() displays dialogue box to receive input from user with OK button.
6. parseFloat() converts string into decimal values.
7. prompt() is used as a popup box to display a text with OK button.

III Match the following 04M

1. parseInt() a. Receives input
2. parseFloat() b. Displays output
3. alert() c. Decimal number
4. prompt() d. Integer

IV Programs 20M

1. Write a JavaScript program to accept a decimal value & display the square of it in a message box.

2. Write a JavaScript program to accept two numbers and display the sum of it.

3. Write a JavaScript program to accept your age, increase the age by 1 using Increment operator & then display it.

4. Write a JavaScript program to accept your age, decrease the age by 1 using Decrement operator & then display it.
INFORMATION TECHNOLOGY

CHAPTER 3: IMPRESSIVE WEB DESIGNING

*students go through the tips given here and I.T text book (page no mentioned for each topic), then answer the worksheet

1. Built-In Functions (page 48)

*Function is used to perform repetitive tasks. It is a reusable code-block that will be executed when it is called.

(JavaScript is case sensitive)

a) confirm() - to display a message box with ‘ok’ & ‘cancel’ button

b) toLowerCase() - to convert string into lowercase

c) toUpperCase() - to convert string into uppercase

d) isNaN() - means Not a Number. Result is ‘true’ if the given value is not a number. Result is ‘false’ if the given value is a number.

2. String property:( page 48)

a) length - to calculate the length of the string

    ex: var str = “hello”

    var count = str.length

    document.write(count) displays 5 which is the number of characters in the variable str

3. Decision Making Statements (page 49)

a) if statement
syntax:
if(condition)
{
  Statements
}

*single statement then { } is optional

Ex:  <script language="javascript">
      var age=parseInt(prompt("enter your age"))
      if (age>=18)
      {     document.write("adult")
      }
      </script>

• if the age entered is 18 or above 18 then “adult” will be displayed.
• if the age is less than 18 nothing is displayed

ex:  <script language="javascript">
      var age=parseInt(prompt("enter your age"))
      if (age>=18)
      {     document.write("adult")
      }
      document.write("all the best") </script>

• if the age entered is 18 or above 18 then “adult” & “all the best” will be displayed.
• if the age is less than 18 only “all the best” is displayed

b) if else statement

syntax:
if(condition)
{
  statements
}
else
{ statements }

when the Condition is true then the
Statements within the block executes ,
when the condition is false then it goes to the else part and
statements within the block executes
*single statement then { } is optional
*else cannot have () with condition

Ex:
```javascript
<script language="javascript">
var age=parseInt(prompt("enter your age"))
if (age>=18)
{
  document.write("adult")
}
else
{
  document.write("minor")
}
</script>
```

- If the age entered is 18 or above 18 then “adult” will be displayed. If the age is less than 18 “minor” is displayed.

ex:
```javascript
<script language="javascript">
var age=parseInt(prompt("enter your age"))
if (age>=18)
{
  document.write("adult")
}
else
{
  document.write("minor")
}
document.write("all the best")
</script>
```

- if the age entered is 18 or above 18 then “adult” & “all the best” will be displayed.
- if the age is less than 18 then “minor” & “all the best” will be displayed.
I.T WORKSHEET-13

MARKS:40
TIME:1.5hrs

I) FILL IN THE BLANKS: 09M
1. _______string function is used to convert string into uppercase alphabets.
2. _______function displays confirmation message box with ok & cancel button.
3. If str="hello students" ; then the result of str.length is ________.
4. _______function returns true if the value entered is not a number.
5. If i is not equal to 3 syntax in JavaScript is displayed as______.
6. If str="INFORmation" then the result of str.toLowerCase() is______.
7. _______is the only string property.
8. In JavaScript some functions return a special value called NaN which means that the value is______.
9. _______is a reusable code -block that will be executed when it is called.

II) STATE TRUE OR FALSE 07M
1. In decision making statements at a time either true block or false block will be executed.
2. confirm() displays alert popup box with ok button.
3. Curly brackets are optional for single statements.
4. In JavaScript ‘if’ statement is case sensitive
5. toUpper() is used to convert string into uppercase strings.
6. If...else is called a control statement in JavaScript.
7. JavaScript inbuilt functions are case sensitive.

III) MATCH THE FOLLOWING 04M
1. isNaN(1) a. confirm()
2. string property b. true
3. isNaN("hello") c. false
4. built in function d. length

IV) PROGRAMS 20M
1. Write a program in JavaScript to check the entered number is above 50?(using if)
2. Write a program in JavaScript to check the entered number is equal to 100?(using if)
3. Write a program in JavaScript to accept marks in three subjects find the average and display “pass” if the average is greater or equal to 70 otherwise display “fail”?(using if...else)
4. Write a program in JavaScript to accept your name and display in uppercase using in-buit function?
INFORMATION TECHNOLOGY

CHAPTER 3: IMPRESSIVE WEB DESIGNING

*students go through the tips given here and I.T text book (page no mentioned for each topic), then answer the worksheet

Decision making statements: (page 50)

a) if......else if statement - is used to check multiple conditions, at a time only one condition is true.

Syntax:

```
if(condition1)
{
    Statements
}
else if(condition2)
{
    Statements
}
else
{
    statements
}
```

Ex:
```
var number=parseInt(prompt("enter any number"))
if (number>0)
    { document.write("positive number")  }
else if(number<0)
    { document.write("negative number")  }
else
    { document.write("zero")
```

- if the number is greater than zero then the condition is true and it will not go to else if statements .If the entered number is greater than zero then only “positive number “ is displayed .
- if the number is not greater than zero, it goes to else if statement. If the number is less than zero then the condition is true and it will not go to else statements. If the entered number is less than zero then only “negative number “ is displayed .
- if the number is not greater than or less than zero then “zero” is displayed.

b) user defined functions: (page 50)

- Function is a small part of program.
- Function helps to make a program smaller.
• Function is designed for a particular task.
• Function should be called to get executed.

c) Rules for creating function name:

1. Start with an alphabet
2. Uppercase & lowercase are distinct.
3. Not more than 255 characters
4. No keywords allowed
5. Only numbers, alphabets & _ (underscore) allowed.

Function defining:
function function_name(argument1,argument2)

{ statements
}

Function calling:
function_name()

ex: write a program in JavaScript to display the square of a number using user defined function.

```html
<!DOCTYPE html>
<html><head><title>program on user defined function</title>
<script language="JavaScript">
function square()
{
    var a=parseInt(prompt("enter number"))
    var ans=a*a
    document.write("square of" +a "is"+ans)
}
</script></head>
<body> <script language="JavaScript">
square()
</script></body></html>
```

Without function call, function will not run
I.T WORKSHEET-14

MARKS:40
TIME:1.5hrs

I) FILL IN THE BLANKS: 09M
1. ______ is a subprogram designed to perform a particular task.
2. ______ are values passed to the function for further processing.
3. ______ is a group of JavaScript statements that can be called upon by its name to do a specific task.
4. ______ is a keyword to declare a variable.
5. ______ is an in-built function to accept user’s input.
6. document.______ is a method to write a string of text to a document stream.
7. ______ is a scripting language.
8. ______ statement is used to check multiple conditions.
9. Function name cannot exceed ______ characters.

II) STATE TRUE OR FALSE: 07M
1. else statements execute when all the conditions turn false.
2. Functions can be called only by an event.
3. User defined functions make program smaller.
4. Function names are case sensitive.
5. User defined functions & in-built functions are the same
6. if....else is case insensitive.
7. else if is not a keyword.

III) MATCH THE FOLLOWING: 04M
1. makes program smaller         a. sum()
2. example of user defined function b. function
3. decision making statement     c. JavaScript
4. scripting language            d. if.....else

IV) PROGRAMS 20M
1. Write a program in JavaScript to display “HELLO STUDENTS” using user defined function `show()`.
2. Write a program in JavaScript to find the cube of a given number using user defined function ?
3. Write a program in JavaScript to find the perimeter of a rectangle using user defined function?
4. Write a program in JavaScript to find the product of two numbers using user defined function ?
a) features of JavaScript: (page 51)

- JavaScript is an event driven language.
- JavaScript is a light weight scripting language.
- JavaScript is the universal scripting language.
- JavaScript is a case sensitive language.
- JavaScript makes web pages dynamic & interactive.
- JavaScript performs input data validation.

b) Event: (page 51)

Event is an action done by user or an application.
Ex: page load, pressing any key, closing a window, resizing a window, clicking of a button

c) Event Handler: (page 51)

Event handler is a function that is called when an event occurs. You can respond to any event using an event handler.
ex: onClick(), onKeyUp()

d) Mouse Events: (page 51)

ex: onMouseOut(), onClick(), onMouseOver(), onMouseUp()

e) Keyboard Events: (page 51)

ex: onKeyDown(), onKeyUp()
ex: q) write a program to display the area of a square on a mouseover event?

```html
<!DOCTYPE html>
<html>
<head>
<title>event driven prg</title>
<script language ="javascript">
function display()
{
 var side=f1.t1.value
 var area=side*side
 document.write("area of square is"+area)
}
</script>
</head>
<body>
<form name="f1">
Enter side of a square:<input type="text" name="t1" ><br>
<input type="button" value="keep mouse here" onmouseover="display()">
</form>
</body>
</html>

Work sheet on next page
I.T WORKSHEET-15

MARKS:40
TIME:1.5hrs

I) FILL IN THE BLANKS: 09M
1. The ______ event occurs when a user clicks on an element.
2. ______ language makes web page more interactive.
3. The ______ event occurs when a user presses a key.
4. ______ Scripting language lets you to execute a code when events are detected.
5. The ______ event occurs when user moves the mouse away from an element.
6. ______ can be used to respond to any event.
7. ______ is a function that is called when an event occurs.
8. ______ is an action done by the user or an application.
9. The ______ event occurs when user releases a key.

II) STATE TRUE OR FALSE: 07M
1. JavaScript is a case sensitive language.
2. Html creates dynamic webpages.
3. JavaScript can handle Date & Time effectively.
4. onKeyMove occurs when user presses a key.
5. JavaScript cannot perform input data validation.
6. onMouseOver occurs when the user moves the mouse away from an element.
7. JavaScript is an event driven language.

III) MATCH THE FOLLOWING: 04M
1. A keyboard event a. JavaScript
2. Page Load b. onMouseOver
3. A mouse event c. onKeyUp
4. Light weight scripting language d. event

IV) PROGRAMS: 20M
1. Write an event driven program in JavaScript to display “HELLO WORLD”?
2. Write an event driven program in JavaScript to display the perimeter of a square?
3. Write an event driven program in JavaScript to display the sum of two numbers?
4. Write a program JavaScript to accept your college name and display it using a mouseover event?