

JavaScript

(Familiarization with console and Math object, Math.PI, Number.MAX_VALUE, alert, prompt, confirm, etc)

1. Write a program in JavaScript to illustrate the difference between primitives and Objects.

Solution:

Primitive:

```
var name="ncit";  
console.log(name); //output-ncit  
var secondName=name;  
name = "college";  
console.log(secondName); // output-ncit
```

Object:

```
var student={ name:'abc',roll:99};  
console.log(student); // output-above object as array  
secondStudent=student;  
console.log(secondStudent); // output- same object student  
person.name='bcd';  
console.log(student); // output-same above object with name changed from 'abc' to 'bcd'
```

2. Write a program and execute in JavaScript to compute the real roots of quadratic equation, asking for coefficients of equation (a,b,c) from the user. [Use prompt, Math.sqrt]
3. Write a program in JavaScript to display the following table: [Spring, 2012]

S.No	Input	Output
1	5	25
2	6	36
3	7	49
4	8	64
5	9	81

(Use document.write("<table border='1'><tr><th>S.No.</th></tr>");)

4. Write a program in JavaScript that takes username as input from Prompt box and display that name as an output in Alert box. [Spring,2011]
5. Write a program in JavaScript to display the multiplication table of a given number. [Fall,2012]

Solution:

```
<script type='text/javascript'>
var num = prompt("Enter Number", "0") //prompt user to enter the number
var num = parseInt(num); //parse the num to number
var i = 0;
document.write('<table border="1" cellspacing="0">');
for(i=1;i<10;i++) {
    document.write("<tr><td>" + num + " x " + i + " = " + num*i +
"</td></tr>");
}
document.write("</table>");
</script>
```

6. Write a JavaScript to find the reverse of a string supplied using prompt. [spring,2014]

Solution:

```
Function reverseString(str){
Var array=str.split("");
array.reverse();
var result=array.join("");
return result;
}
Console.log(reverseString("hello"));
```

7. Write a program in JavaScript to display a prompt for 2 numbers and show its sum in alert box. [Spring,2015]
8. Write a program in JavaScript to alter the visibility of an image of HTML document. [Spring,2016]
9. Write a program in JavaScript to change the color of text displayed in HTML document to red.
10. Write a JavaScript program to create a digital clock. The clock is displayed in webpage and displays the current time. The clock displays new time in the interval of 1 second. [Spring,2011]

Solution:

```
<!DOCTYPE html>
<html>
<head>
<script type="text/javascript">
function startTime() {
    var today = new Date();
```

```
var h = today.getHours();
var m = today.getMinutes();
var s = today.getSeconds();
m = checkTime(m);
s = checkTime(s);
document.getElementById('txt').innerHTML =
h + ":" + m + ":" + s;
var t = setTimeout(startTime, 1000); //1s=1000ms
}
function checkTime(i) {
    if (i < 10) {i = "0" + i}; // add zero in front of numbers < 10
    return i;
}
</script>
</head>
    <body onload="startTime()">
        <div id="txt"></div>

    </body>

</html>
```

11. Write a JavaScript program to validate the form input fields name, email and contact number and alert empty error message if the field is empty.
12. Write a JavaScript program to validate the form input fields name, email and contact number using pattern matching and alert error message if the field does not match the pattern.

Solution:

For name (Method 1):

```
var regex = /^[a-zA-Z ]{2,30}$/;
var ctrl = document.getElementById(id);
if (regex.test(ctrl.value)) {
    return true;
}
```

For name (Method 2):

```
var regex = /^[a-zA-Z ]{2,30}$/;
var ctrl = document.getElementById(id).value;
if(ctrl.match(regex)){
    return true;
}
```

For name (Method 3):

```
var regex = /^[a-zA-Z ]{2,30}$/;
var ctrl = document.getElementById(id).value;
if(ctrl.search(regex) >=0){
    return true;
}
```

For email:

```
var pattern = /^\\w+@[a-zA-Z_]+?\\.[a-zA-Z]{2,3}$/;
```

For phone number:

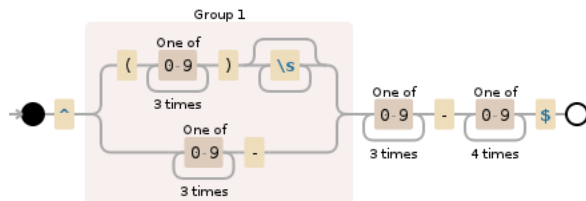
```
var phoneno = /^(?([0-9]{3}))?[ -]?([0-9]{3})[ -]?([0-9]{4})$/;
```

or

```
var phone= /^(\\([0-9]{3}\\)\\s*|[0-9]{3}-)[0-9]{3}-[0-9]{4}$/
```

(validates '(078)789-8908';

'(078) 789-8908'; // Note the space)



13. Create a page with button and textbox. The textbox should display a value '0' initially.

Write a JavaScript function so that when you click the button the value of textbox increases with 1 per click. [Spring,2013]

14. WAP in JavaScript to find the factorial of entered number.

```
<!doctype html>
<html>
<head>
<script>
function show(){
var i, no, fact;
fact=1;
no=Number(document.getElementById("num").value);
for(i=1; i<=no; i++)
{
fact= fact*i;
}
document.getElementById("answer").value= fact;
}
</script>
</head>
<body>
Enter Num: <input type="text" id="num">
<button onclick="show()">Factorial</button>
<input type="text" id="answer">
</body>
</html>
```

15. Using JavaScript and forms prepare a HTML document to find (and display in textbox) the factorial of a entered number. Also display the message in alert box if the factorial is divisible both by 2 and 5.

16. Write JavaScript programs for:

- Moving Element & Element Visibility
- Changing Colors & Fonts
- Dynamic Content & Stacking Elements
- Dragging and Dropping Elements
- Event Handling

17. PHP program to find the prime number in range:

```
<?php
function primeno($n){
    for($i=1;$i<=$n;$i++){ //numbers to be checked as prime
        $counter = 0;
        for($j=1;$j<=$i;$j++){ //all divisible factors
            if($i % $j==0){
                $counter++;
            }
        }
        //prime requires 2 rules ( divisible by 1 and divisible by itself)
        if($counter==2){
            print $i." is Prime <br/>";
        }
    }
}
primeno(100); //find prime numbers from 1-100
?>
```