

1. Create a form with the elements of Textboxes, Radio buttons, Checkboxes, and so on. Write JavaScript code to validate the format in email and mobile number in 10 characters, if a textbox has been left empty, popup an alert indicating when email, mobile number and textbox has been left empty.

```
<!DOCTYPE html>
<html>
<head>
<title>Form Validation</title>
<script>
function validateForm()
{
const email = document.getElementById('email').value;
const mobile = document.getElementById('mobile').value;
const textbox = document.getElementById('textbox').value;
let isValid = true;
let errorMessage='';
// Validate email format
if(!validateEmail(email))
{
errorMessage+= "Invalid email format.\n";
isValid = false;
}
// Validate mobile number length
if(mobile.length!=10)
{
errorMessage+="Mobile number should be 10 characters.\n";
isValid=false;
}
// Check if any field is left empty
if(email===''||mobile===''||textbox===')
{
errorMessage+="Please fill in all fields. \n";
isValid=false;
}
// Display error message in an alert if any validation fails
if(!isValid)
{
alert(errorMessage);
}
return isValid;
}
// Function to validate email format using a regular expression
function validateEmail(email)
{
const emailRegex=/^[^\s@]+@[^\s@]+\.[^\s@]+$/;
return emailRegex.test(email);
}
</script>
</head>
```

```

<body>
<h2>Form Validation</h2>
<form onsubmit="return validateForm()">
Email: <input type="text" id="email"><br><br>
Mobile Number: <input type="text" id="mobile"><br><br>
Address: <input type="text" id="textbox"><br><br>
Gender:
<input type="radio" id="male" name="gender" value="male">
<label for="male">Male</label>
<input type="radio" id="female" name="gender" value="female">
<label for="female">Female</label><br><br>
Interests:
<input type="checkbox" id="music" name="interest" value="music">
<label for="music">Music</label>
<input type="checkbox" id="sports" name="interest" value="sports">
<label for="sports">Sports</label><br><br>
<input type="submit" value="Submit">
</form>
</body>
</html>

```

2. Develop an HTML Form, which accepts any Mathematical expression. Write JavaScript code to Evaluate the expression and display the result.

```

<html>
<head>
<title>
Math Expression Evaluator
</title>
<script>
function evaluateExpression()
{
const expression = document.getElementById('expression').value;
try
{
const result=eval(expression);
document.getElementById('result').textContent=`Result:${result}`;
}
catch(error)
{
document.getElementById('result').textContent="invalid Expression or operation.";
}
}
</script>
</head>
<body>
<h2>Math Expression Evaluator</h2>
<form>
Enter a Mathematical Expression:
<input type="text" id="expression">

```

```

<input type="button" value="Evaluate" onclick="evaluateExpression()">
</form>
<p id="result"></p>
</body>
</html>

```

3.Create a page with dynamic effects.Write the code to include layers and basic animation.

```

<html>
<head>
<title> Basic Animation </title>
<style>
#layer1{position:absolute; top:50px;left:50px;}
#layer2{position:absolute; top:50px;left:400px;}
#layer3{position:absolute; top:50px;left:800px;}
</style>
<script type="text/javascript">
function moveImage(layer)
{
var top = window.prompt("Enter top value");
var left = window.prompt("Enter left value");
document.getElementById(layer).style.top =top+'px';
document.getElementById(layer).style.left =left+'px';
}
</script>
</head>
<body>
<div id="layer1"></div>
<div id="layer2"></div>
<div id="layer3"></div>
</body>
</html>

```

4.Write a JavaScript code to find the sum of N natural numbers(Use user-defined function).

```

<html>
<head>
<title>sum of n numbers</title>
<script type="text/javascript">
function sum()
{
var n=prompt("enter a number",0);
var num=parseInt(n);
var sum=0;
for(i=1;i<=num;i++)

```

```

{
sum=sum+i;
}
document.writeln("sum of "+num+" natural numbers: "+sum);
}
</script>
</head>
<body>
<center><h1> finding sum of natural numbers using javascript </h1>
<input type="button" onclick="sum()" value="sum"/>
</center>
</body>
</html>

```

5. Write a JavaScript code block using arrays and generate the current date in words, this should include the day, month and year

```

<!DOCTYPE html>
<html>
<title>Current Date in Words</title>
<head>
</head>
<body>
<h2>Current Date in Words</h2>
<p id="dateInWords"></p><script>
// Arrays to hold day, month, and year names
const daysOfWeek = [
"Sunday", "Monday", "Tuesday", "Wednesday", "Thursday", "Friday",
"Saturday"
];
const monthsOfYear = [
"January", "February", "March", "April", "May", "June", "July", "August",
"September", "October",
"November", "December"];
// Get current date
const currentDate = new Date();
// Extract day, month, and year components
const day = daysOfWeek [currentDate.getDay()]; const month = monthsOfYear
[currentDate.getMonth()];
const year = currentDate.getFullYear();
// Construct the date in words
const currentDateInWords = `${day}, ${month} ${currentDate.getDate()},
${year}`;
// Display the date in words
document.getElementById('dateInWords').textContent = "Current date in words: " +
currentDateInWords;
</script>
</body>
</html>

```

6.Create a form for Student Information.Write JavaScript code to find Total,Average,Result and Grade.

```
<html>
<head>
<title>Student Information Form</title>
<script>
function calculateResult() {
// Get input values from the form
var math=parseFloat(document.getElementById('math').value);
var science=parseFloat(document.getElementById('science').value);
var english=parseFloat(document.getElementById('english').value);
// Calculate Total marks and Average
var totalMarks=math+science+english;
var average=totalMarks/3;
var result=(math>=35 && science>=35 && english>=35)?"Pass":"Fail";
// Calculate Grade based on the average marks
var grade;
if(average>=90)
{
grade='A+';
}
else if(average>=80)
{
grade='A';
}
else if(average>=70)
{
grade='B';
}
else if(average>=60)
{
grade='C';
}
else if(average>=50)
{
grade='D';
}
else
{
grade='F';
}
// Display the calculated values
document.getElementById('totalMarks').value=totalMarks.toFixed(2);
document.getElementById('average').value=average.toFixed(2);
document.getElementById('result').value=result;
document.getElementById('grade').value=grade;
}
</script>
</head>
<body>
<h2>Student Information</h2>
```

```

<form>
Math: <input type="number" id="math"><br><br>
Science: <input type="number" id="science"><br><br>
English: <input type="number" id="english"><br><br>
<input type="button" value="Calculate" onclick="calculateResult()">
</form>
<br>
<h2>Result Details</h2>
Total Marks: <input type="text" id="totalMarks" readonly><br><br>
Average: <input type="text" id="average" readonly><br><br>
Result: <input type="text" id="result" readonly><br><br>
Grade: <input type="text" id="grade" readonly>
</body>
</html>

```

7.Create form for Employee Information.Write JavaScript code to find DA,HRA,PF,TAX,Gross pay,Deduction and Net pay.

```

<html>
<head>
<script type="text/javascript">
function show()
{
var name=document.getElementById("txtname").value;
var num=document.getElementById("txtnum").value;
var sal=parseInt(document.getElementById("txtsal").value);
var hra=(sal*40)/100;
var da=(sal*60)/100;
var gross=sal+hra+da;
var pf=(sal*13)/100;
var tax=(sal*20)/100;
var deduct=pf+tax;
var net=gross-deduct;
document.writeln("<b>Employee Name:"+name+"</b>"+"<br>"+"<br>");
document.writeln("<b>Employee Number:"+num+"</b>"+"<br>"+"<br>");
document.writeln("<b>Basic salary:"+sal+"</b>"+"<br>"+"<br>");
document.writeln("<b>HRA:"+hra+"</b>"+"<br>"+"<br>");
document.writeln("<b>DA:"+da+"</b>"+"<br>"+"<br>");
document.writeln("<b>Gross Salary:"+gross+"</b>"+"<br>"+"<br>");
document.writeln("<b>PF:"+pf+"</b>"+"<br>"+"<br>");
document.writeln("<b>Tax:"+tax+"</b>"+"<br>"+"<br>");
document.writeln("<b>Deduction:"+deduct+"</b>"+"<br>"+"<br>");
document.writeln("<b>Net Salary:"+net+"</b>"+"<br>"+"<br>");
}
</script>
</head>
<body bgcolor="pink" text="blue">
<center>
<h1> Employee Detail Form</h1>

```

```

<form name="emp">
<table border="2">
<tr><td colspan="2" align="center"> Employee Detail:</td></tr><br>
<tr><td>Employee Name:</td><td><input type="text" id="txtname"></td></tr><br>
<tr><td>Employee Number:</td><td><input type="text" id="txtnum"></td></tr><br>
<tr><td> Basic Salary:</td><td><input type="text" id="txtsal"></td></tr><br>
<tr><td><input type="button" onclick="show()" value="Salary Report"></td>
<td><input type="reset" value="Reset"></td></tr>
</table>
</form>
</center>
</body>
</html>

```

8.PHP program to change background colour based on day of the week using if-else-if statements and using arrays.

```

<?php
// Define an array to map days of the week to background colors
$dayColors = [
'Sunday' => '#ffcccb',
'Monday' => '#ffeacd',
'Tuesday' => '#add8e6',
'Wednesday' => '#98fb98',
'Thursday' => '#f0e68c',
'Friday' => '#dda0dd',
'Saturday' => '#c0c0c0'
];
// Get the current day of the week
$currentDay = date('l');
// Set a default color in case the day is not found
$backgroundColor = 'ffffff'; // Default white color
// Check if the current day exists in the array
if (array_key_exists($currentDay, $dayColors)) {
// If the day exists, set the background color based on the day
$backgroundColor = $dayColors[$currentDay];
}
?>
<!DOCTYPE html>
<html>
<head>
<title>Background Color Based on Day of the Week</title>
<style>
body {
background-color: <?php echo $backgroundColor; ?>;
}
</style>
</head>
<body>
<h1>Welcome! Today is <?php echo $currentDay; ?></h1>
</body>
</html>

```

9. Write a simple PHP program for generating Prime Number.

```
<?php
$count = 0;
$num = 2;
echo "<h3>Prime numbers from 1 to 50: </h3>";
echo "\n";
while ($count < 15 )
{
    $div_count=0;
    for ( $i=1; $i<=$num; $i++)
    {
        if (($num%$i)==0)
        {
            $div_count++;
        }
    }
    if ($div_count<3)
    {
        echo $num." , ";
        $count=$count+1;
    }
    $num=$num+1;
}
?>
```

10. Write a simple PHP program to generate Fibonacci series.

```
<?php
$num = 0;
$n1 = 0;
$n2 = 1;
echo "<h3>Fibonacci series for first 12 numbers: </h3>";
echo "\n";
echo $n1.' '.$n2.' ';
while ($num < 10 )
{
    $n3 = $n2 + $n1;
    echo $n3.' ';
    $n1 = $n2;
    $n2 = $n3;
    $num = $num + 1;
}
?>
```

11. Write a PHP Script to print the following pattern on the Screen:

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



```

<?php
$rows=5;
for($i=$rows;$i>=1;$i--){
for($j=$rows;$j>$i;$j--){
echo"&nbsp;";
}
for($k=1;$k<=$i;$k++){
echo"*";
}
echo"<br>";
}
?>

```

12.PHP Program for exception handling

i)Divide by zero

(ii)Checking date fromat.

```

<?php
try {
$numerator=10;
$denominator=2;
if($denominator===0) {
throw new Exception("Division by zero error");
}
$result=$numerator/$denominator;
echo"Result of division:". $result."<br>";
$dateString='2023-12-25';
$dateFormat='Y-m-d';
$date=DateTime::createFromFormat($dateFormat,$dateString);
if(!$date||$date->format($dateFormat)!==$dateString) {
throw new Exception("Invalid date format");
}
echo"Date is valid:". $dateString;
} catch(Exception $e) {
echo"Error:". $e->getMessage();
}
?>

```