

**01.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>

</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" name="gender" value="male"> Male

    <input type="radio" name="gender" value="female"> Female

    <br><br>


    Interests:

    <input type="checkbox" value="music"> Music

    <input type="checkbox" value="sports"> Sports

    <br><br>


    <input type="submit" value="Submit">

</form>


<script>

function validateForm() {

    let email = document.getElementById("email").value;

    let mobile = document.getElementById("mobile").value;

    let address = document.getElementById("textbox").value;
```

```
let msg = "";

if (!email.includes("@") || !email.includes("."))
    msg += "Enter a valid email.\n";

if (mobile.length !== 10)
    msg += "Mobile number must be 10 digits.\n";

if (!email || !mobile || !address)
    msg += "All fields are required.\n";

if (msg) {
    alert(msg);
    return false;
}
return true;
}
</script>

</body>
</html>
```

**02. Develop an HTML form which accepts any mathematical expression. Write a JavaScript code to evaluate the expression and display the result.**

```
<!DOCTYPE html>
<html>
<head>
    <title>Math Evaluator</title>
</head>
<body>

<h2>Math Expression Evaluator</h2>
```

```

<form>

  Enter expression:

  <input type="text" id="expr">

  <button type="button" onclick="evaluateExpr()">Evaluate</button>

</form>


<p id="result"></p>


<script>

function evaluateExpr() {

  let expr = document.getElementById("expr").value;

  try {

    let res = eval(expr);

    document.getElementById("result").textContent = "Result: " + res;

  } catch {

    document.getElementById("result").textContent = "Invalid expression";

  }

}

</script>


</body>

</html>

```

### 03.Create a page with dynamic effects. Write the code to include layers and basic animations

```

<!DOCTYPE html>

<html lang="en">

<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}

```

```
img{
  width: 200px;
  height: 200px;
  cursor: pointer;
}
</style>
</head>
<body>

<div id="layer1">
  
</div>

<div id="layer2">
  
</div>

<div id="layer3">
  
</div>

<script>
function moveImage(layerId) {
  let top = prompt("Enter top value:");
  let left = prompt("Enter left value:");

  let layer = document.getElementById(layerId);

  layer.style.top = top + "px";
  layer.style.left = left + "px";
}
</script>
</body>
</html>
```

**04. Write a JavaScript code to find the sum of N natural numbers. (use userdefined function)**

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Sum of N Numbers</title>
</head>
<body>
  <center>
    <h1>Finding sum of natural numbers using JavaScript</h1>
    <button onclick="sum()">Sum</button>
  </center>

  <script>
function sum() {
  let num = parseInt(prompt("Enter a number:"));
  let total = 0;

  for ( i = 1; i <= num; i++) {
    total += i;
  }

  document.writeln("Sum of " + num + " natural numbers: " + total);
}
</script>
</body>
</html>
```

**05. 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>
```

```

<head>

<title>Current Date in Words</title>

</head>

<body>


<h2>Current Date in Words</h2>

<p id="dateInWords"></p>


<script>

const days  = ["Sunday","Monday","Tuesday","Wednesday","Thursday","Friday","Saturday"];

const months =
["January","February","March","April","May","June","July","August","September","October","November","December"]
;

let d = new Date();


let result = days[d.getDay()] + ", " + months[d.getMonth()] + " " + d.getDate() + ", " + d.getFullYear();

document.getElementById("dateInWords").textContent = "Current date in words: " + result;

</script>


</body>

</html>

```

**06.Create a form for Student information. Write JavaScript code to find Total, Average, Result and Grade.**

```

<html>

<head>

<title>Student Information Form</title>

</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>
<button type="button" onclick="calculate()">Calculate</button>
</form>
```

```
<h2>Result Details</h2>
```

```
Total Marks: <input type="text" id="total"><br><br>
```

```
Average: <input type="text" id="avg"><br><br>
```

```
Result: <input type="text" id="res"><br><br>
```

```
Grade: <input type="text" id="grade">
```

```
<script>
```

```
function calculate() {
```

```
    let m = Number(document.getElementById("math").value);
```

```
    let s = Number(document.getElementById("science").value);
```

```
    let e = Number(document.getElementById("english").value);
```

```
    let total = m + s + e;
```

```
    let avg = total / 3;
```

```
    let res = (m >= 35 && s >= 35 && e >= 35) ? "Pass" : "Fail";
```

```
    let grade =
```

```
        avg >= 90 ? "A+" :
```

```
        avg >= 80 ? "A"  :
```

```
        avg >= 70 ? "B"  :
```

```
        avg >= 60 ? "C"  :
```

```
        avg >= 50 ? "D"  : "F";
```

```
    total = total.toFixed(2);
```

```
    avg = avg.toFixed(2);
```

```
document.getElementById("total").value = total;
document.getElementById("avg").value = avg;
document.getElementById("res").value = res;
document.getElementById("grade").value = grade;
}
</script>
```

```
</body>
```

```
</html>
```

**07.Create a form for Employee information. Write JavaScript code to find DA, HRA, PF, TAX, Gross pay, Deduction and Net pay.**

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<title>Employee Salary</title>
```

```
</head>
```

```
<body>
```

```
<h2>Employee Salary Calculator</h2>
```

```
Name: <input id="name"><br><br>
```

```
Number: <input id="num"><br><br>
```

```
Basic Salary: <input id="sal" type="number" ><br><br>
```

```
<button onclick="calc()">Calculate</button>
```

```
<button onclick="resetForm()">Reset</button>
```

```
<p id="out"></p>
```

```
<script>
```

```
function calc() {
```

```
let name = document.getElementById("name").value;
```



```
let num = document.getElementById("num").value;
let sal = Number(document.getElementById("sal").value);
```

```
let hra = sal * 0.40;
let da = sal * 0.60;
let gross = sal + hra + da;
```

```
let pf = sal * 0.13;
let tax = sal * 0.20;
let deduct = pf + tax;
```

```
let net = gross - deduct;
```

```
document.getElementById("out").innerText =
```

```
"Name: " + name +
```

```
"\nNumber: " + num +
```

```
"\n\nBasic: " + sal +
```

```
"\nHRA: " + hra +
```

```
"\nDA: " + da +
```

```
"\nGross: " + gross +
```

```
"\n\nPF: " + pf +
```

```
"\nTAX: " + tax +
```

```
"\nDeduction: " + deduct +
```

```
"\n\nNet Pay: " + net;
```

```
}
```

```
</script>
```

```
</body>
```

```
</html>
```

## PHP

**08. Write a program in PHP to change background color based on day of the week using if else if statements and using arrays**

```

<?php
$colors = [
    'Sunday' => '#ffcccb',
    'Monday' => '#ffebcd',
    'Tuesday' => '#add8e6',
    'Wednesday' => '#98fb98',
    'Thursday' => '#f0e68c',
    'Friday' => '#dda0dd',
    'Saturday' => '#c0c0c0'
];

$day = date('l');
$bg = $colors[$day] ?? '#ffffff';
?>

<!DOCTYPE html>

<html>

<head>

<title>Background Color</title>

<style>
    body { background-color: <?= $bg ?>; }
</style>

</head>

<body>

<h1>Today is <?= $day ?></h1>

</body>

</html>

```

**09. Write a simple program in PHP for**

- 1. Generating prime number.**
- 2. Generate Fibonacci series.**

```
<?php
echo "<h3>Prime numbers from 1 to 50:</h3>";
```

```
for ($n = 2; $n <= 50; $n++) {
    $prime = true;

    for ($i = 2; $i < $n; $i++) {
        if ($n % $i == 0) {
            $prime = false;
            break;
        }
    }

    if ($prime) echo $n . " ";
}
?>
```

**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. Write a simple program in PHP for Searching of data by different criteria**

```
<?php  
$users = [  
    ['id'=>1,'name'=>'anjali','age'=>20,'email'=>'anjali@example.com'],  
    ['id'=>2,'name'=>'neena','age'=>19,'email'=>'neena@example.com'],  
    ['id'=>3,'name'=>'madhu','age'=>22,'email'=>'madhu@example.com'],  
];  
  
echo "Search results for age=19:<br>";  
  
foreach ($users as $u) {  
    if ($u['age'] == 19) {  
        echo "ID: {$u['id']}, Name: {$u['name']}, Email: {$u['email']}<br>";  
    }  
}  
?>
```

**13. Write a function in PHP to generate a captcha code.**

```
<?php  
session_start();  
  
function makeCaptcha($len = 6) {  
    $letters = 'ABCDEFabcdef012345';  
    $code = "";  
  
    for ($i = 0; $i < $len; $i++) {  
        $code .= $letters[rand(0, strlen($letters) - 1)];  
    }  
}
```

```
$_SESSION['captcha'] = $code;

return $code;

}
```

```
echo "Captcha: " . makeCaptcha();

?>
```

#### **14. Write a program in PHP for setting and retrieving a cookie**

```
<?php

setcookie("user", "ABCD", time() + 86400, "/");

echo "Cookie 'user' is set.<br><br>";

if (isset($_COOKIE["user"])) {
    echo "Cookie value: " . $_COOKIE["user"];
} else {
    echo "Cookie not set.";
}

?>
```

#### **15. Write a PHP program to create a simple webpage of a College**

```
<!DOCTYPE html>

<html>

<head>

<title>College Website</title>

</head>

<body>

<h1>Welcome to Our College</h1>

<nav>

<a href="#">Home</a>
```

```

<a href="#">About</a>

<a href="#">Courses</a>

<a href="#">Contact</a>

</nav>


<h2>About Our College</h2>

<p>Brief description of our college.</p>


<h2>Available Courses</h2>

<ul>

<?php
foreach (['Computer Science','Engineering','Business','Arts','Science'] as $c)
    echo "<li>$c</li>";
?>

</ul>


<h2>Contact Information</h2>

<p>Address: 123 College Avenue</p>

<p>Email: info@college.com</p>

<p>Phone: 080-25634869</p>


<p>&copy; <?php echo date("Y"); ?> Our College</p>


</body>

</html>

```

**16. Write a program in PHP for exception handling for :**

**i. Divide by zero**

**ii. Checking date format.**

```

<?php

$a = 10;

$b = 2;

```

```
if ($b == 0) {  
    echo "Error: cannot divide by zero.";  
} else {  
    echo "Result: " . ($a / $b) . "<br>";  
}  
  
$date = "2023-12-25";  
  
if (DateTime::createFromFormat("Y-m-d", $date)) {  
    echo "Date is valid: " . $date;  
} else {  
    echo "Error: wrong date format.";  
}  
  
?>
```