

# BANKURA UNIVERSITY



B.SC. 5<sup>th</sup> SEMESTER (HONOURS) PRACTICAL EXAMINATION 2024-25  
BANKURA SAMMILANI COLLEGE  
DEPARTMENT OF COMPUTER SCIENCE

THIS IS TO CERTIFY THAT **SUSANTA MANDI**, HAVING UID NO: **22023115003**, REGISTRATION NO: **01090 OF 2022-23**, HAS COMPLETED ASSIGNMENTS OF **WEB TECHNOLOGIES** (COURSE ID: **51511**) SATISFACTORILY.

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SIGNATURE OF EXAMINER

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SIGNATURE OF TEACHER

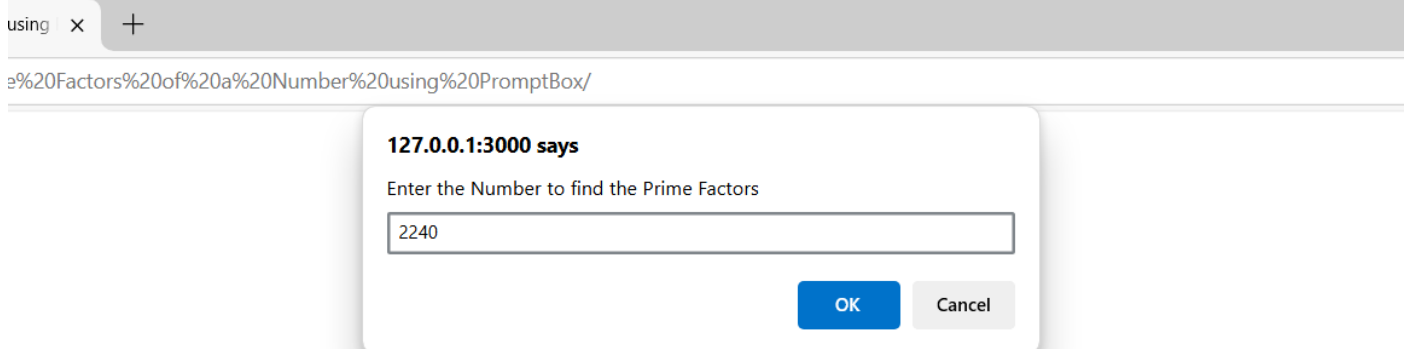
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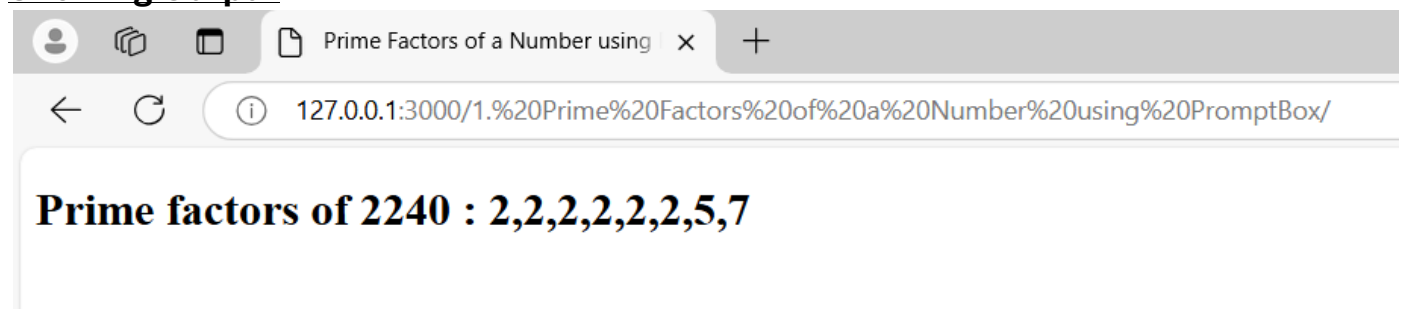
# 1. Write a program in Javascript to find prime factors of a number using prompt box.

```
<!DOCTYPE html>
<html>
<head>
  <title>Prime Factors of a Number using Prompt Box.</title>
</head>
<body>
  <script>
    const number = prompt("Enter the Number to find the Prime Factors");
    function findPrimeFactors(n) {
      let primeFactors = [];
      while (n % 2 === 0) {
        primeFactors.push(2);
        n = n / 2;
      }
      for (let i = 3; i * i <= n; i += 2) {
        while (n % i === 0) {
          primeFactors.push(i);
          n = n / i;
        }
      }
      if (n > 2) primeFactors.push(n);
      return primeFactors;
    }
    document.write(` <h2>Prime factors of ${number} : ${findPrimeFactors(number)}</h2> `);
  </script>
</body>
</html>
```

## Taking Input



## Showing Output



## 2. Write a program in Javascript to find HCF of two numbers using function text box and command button.

```

<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>HCF Calculator</title>
  <script type="text/javascript">
    function calculateHCF() {
      var num1 = document.getElementById("num1").value;
      var num2 = document.getElementById("num2").value;
      if (isNaN(num1) || isNaN(num2) || num1 === "" || num2 === "") {
        alert("Please enter valid numbers.");
        return;
      }
      num1 = parseInt(num1);
      num2 = parseInt(num2);

      // Function to compute HCF
      function hcf(a, b) {
        if (b === 0) {
          return a;
        }
        return hcf(b, a % b);
      }
      var result = hcf(num1, num2);
      document.getElementById("result").innerHTML = `HCF of Two Number <b>${num1}</b> and
<b>${num2}</b> is <b>${result}</b>.`;
    }
  </script>
  <style>
    .container,
    body {
      display: flex;
      flex-direction: column;
      justify-content: center;
      align-items: center;
      font-family: Arial, Helvetica, sans-serif;
      text-align: center;
      gap: 10px;
    }
    body {
      min-height: 100vh;
      margin: 0;
      padding: 0;
    }
    .container {
      width: 95%;
      max-width: 300px;
      padding: 0 30px;
      background-color: #f1f2f3;
      box-shadow: 0px 0px 5px lightgray;
      box-sizing: border-box;
    }
  </style>

```

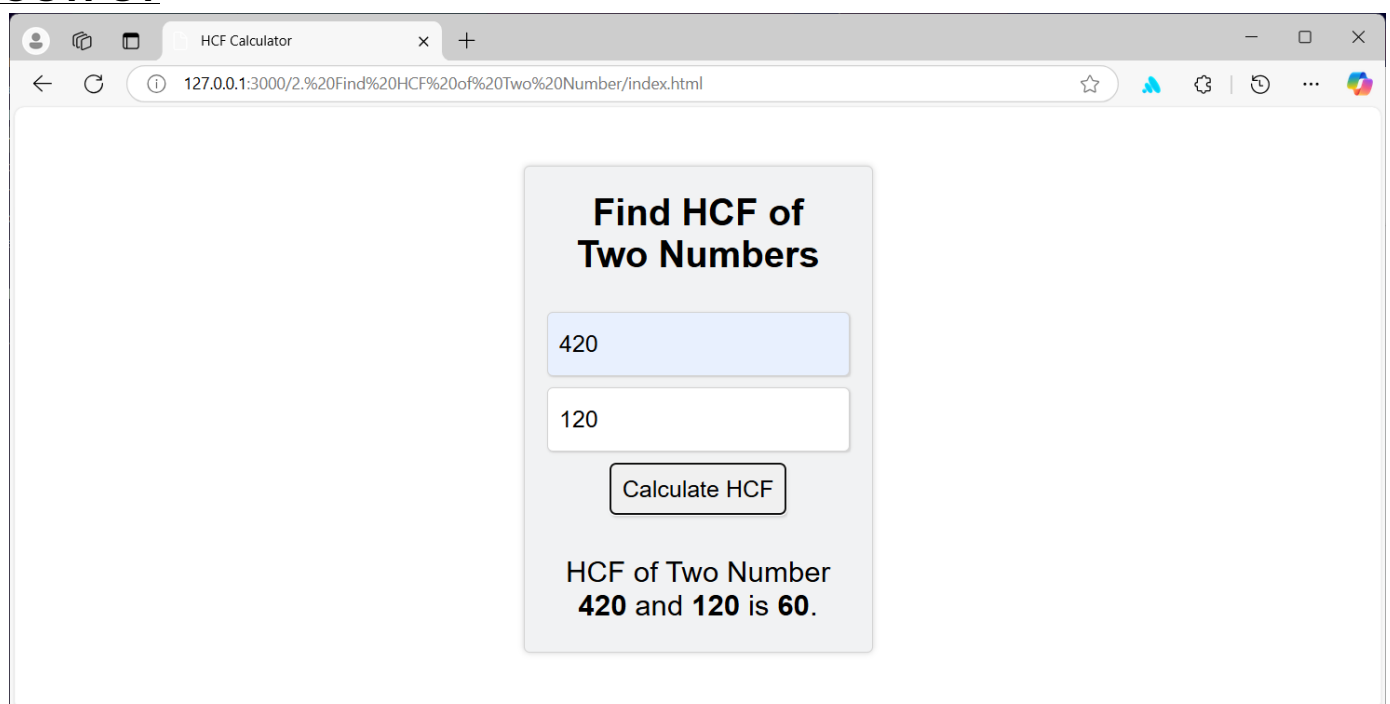
```
.container,
button,
input {
  border-radius: 5px;
  border: 1px solid lightgray;
}

input {
  box-shadow: 1px 1px 2px lightgray;
  width: 100%;
  padding: 15px 10px;
  font-size: 20px;
}

button {
  font-size: 20px;
  padding: 10px;
  box-shadow: 1px 2px 2px lightgray;
  cursor: pointer;
}
</style>
</head>

<body>
<div class="container">
  <h1>Find HCF of Two Numbers</h1>
  <input type="text" class="number" id="num1" placeholder="Enter first number">
  <input type="text" class="number" id="num2" placeholder="Enter second number">
  <button onclick="calculateHCF()">Calculate HCF</button>
  <p style="font-size: 25px;" id="result">Please Enter Two Positive Integers.</p>
</div>
</body>
</html>
```

## OUTPUT

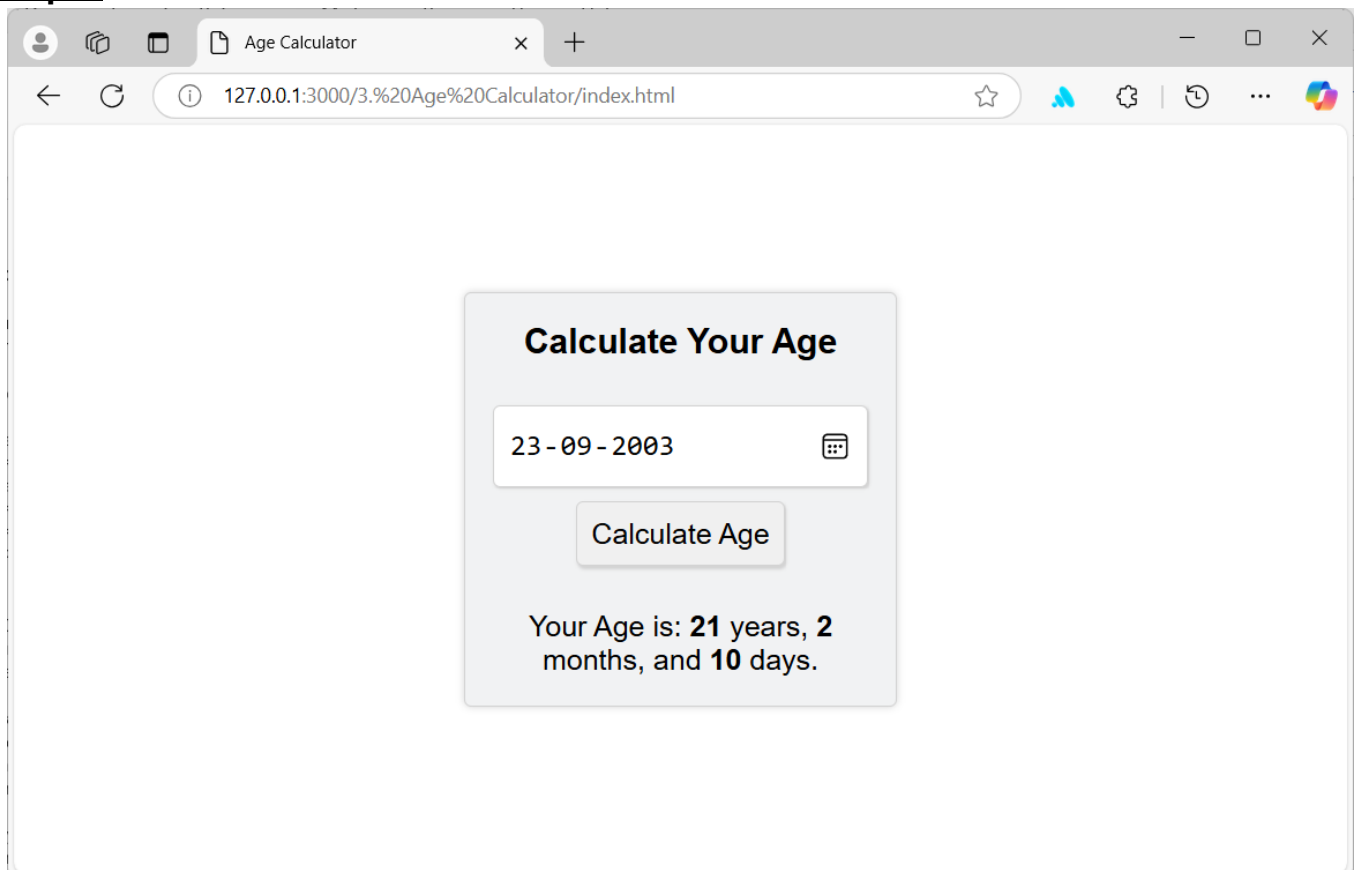


### 3. Write a program in JavaScript to determine the age of a person by taking his/her DOB as input.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Age Calculator</title>
  <script type="text/javascript">
    function calculateAge() {
      var dob = document.getElementById("dob").value;
      if (dob === "") {
        alert("Please enter a valid date of birth.");
        return;
      }
      var birthDate = new Date(dob);
      var currentDate = new Date();
      var ageYears = currentDate.getFullYear() - birthDate.getFullYear();
      var ageMonths = currentDate.getMonth() - birthDate.getMonth();
      var ageDays = currentDate.getDate() - birthDate.getDate();
      if (ageMonths < 0) {
        ageYears--;
        ageMonths += 12;
      }
      if (ageDays < 0) {
        ageMonths--;
        var lastMonth = new Date(currentDate.getFullYear(), currentDate.getMonth(), 0);
        ageDays += lastMonth.getDate();
      }
      document.getElementById("result").innerHTML = "Your Age is: <b>" + ageYears + "</b> years, <b>" +
ageMonths + "</b> months, and <b>" + ageDays + "</b> days.";
    }
  </script>
  <style>
    .container, body {
      display: flex;
      flex-direction: column;
      justify-content: center;
      align-items: center;
      font-family: Arial, Helvetica, sans-serif;
      text-align: center;
      gap: 10px;
    }
    body {
      min-height: 100vh;
      margin: 0;
      padding: 0;
    }
    .container {
      width: 95%;
      max-width: 300px;
      padding: 0 30px;
      background-color: #f1f2f3;
      box-shadow: 0px 0px 5px lightgray;
      box-sizing: border-box;
    }
  </style>
</html>
```

```
.container,
button,
input {
  border-radius: 5px;
  border: 1px solid lightgray;
}
input {
  box-shadow: 1px 1px 2px lightgray;
  width: 100%;
  padding: 15px 10px;
  font-size: 20px;
}
button {
  font-size: 20px;
  padding: 10px;
  box-shadow: 1px 2px 2px lightgray;
  cursor: pointer;
}
</style>
</head>
<body>
  <div class="container">
    <h2>Calculate Your Age</h2>
    <input type="date" id="dob">
    <button onclick="calculateAge()">Calculate Age</button>
    <p style="font-size: 20px;" id="result">Select Your Date of Birth.</p>
  </div>
</body>
</html>
```

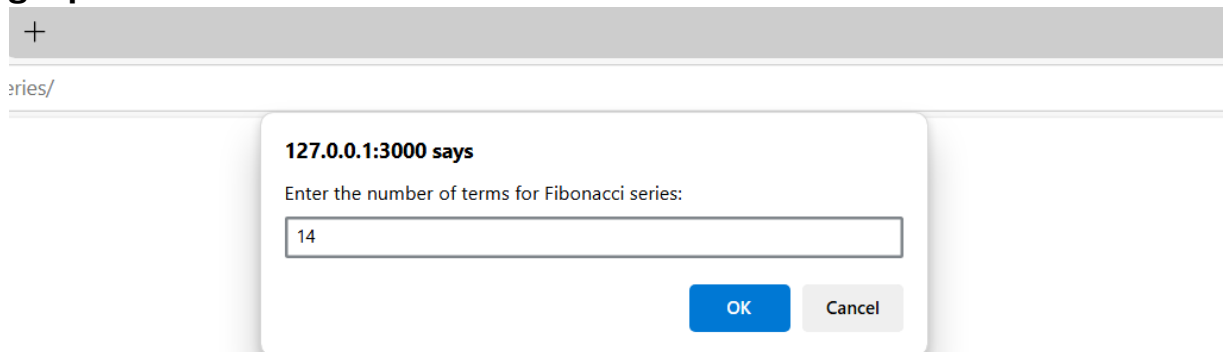
## Output



#### 4. Write a program in JavaScript to display Fibonacci series up to $n$ terms taking the value of $n$ using prompt box.

```
<!DOCTYPE html>
<html>
<head>
  <title>Fibonacci Series</title>
  <script type="text/javascript">
    function generateFibonacci() {
      var n = parseInt(prompt("Enter the number of terms for Fibonacci series:"));
      if (isNaN(n) || n <= 0) {
        alert("Please enter a valid positive number.");
        return;
      }
      var fibonacciSeries = [0, 1];
      for (var i = 2; i < n; i++) {
        fibonacciSeries.push(fibonacciSeries[i - 1] + fibonacciSeries[i - 2]);
      }
      document.getElementById("result").innerText = ("Fibonacci series up to " + n + " terms: " +
        fibonacciSeries.join(", "));
    }
  </script>
</head>
<body>
  <h2>Generate Fibonacci Series</h2>
  <button onclick="generateFibonacci()">Generate Fibonacci Series</button>
  <p id="result"></p>
</body>
</html>
```

#### Taking Input



#### Showing Output





## 5. Write a program in JavaScript to display the following pattern on the screen

```

*
* *
* * *
* * * *
* * * * *
* * * *
* * *
* *
*

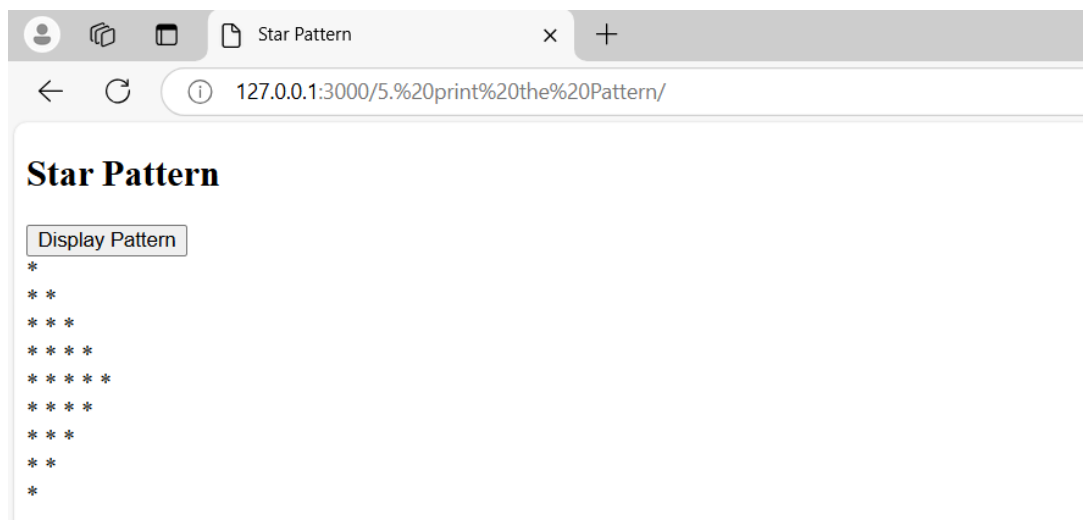
```

```

<!DOCTYPE html>
<html lang="en">
<head>
  <title>Star Pattern</title>
  <script type="text/javascript">
    function displayPattern() {
      let result = "";
      for (let i = 1; i <= 5; i++) {
        for (let j = 1; j <= i; j++) result += "* ";
        result += "<br>";
      }
      for (let i = 4; i >= 1; i--) {
        for (let j = 1; j <= i; j++) result += "* ";
        result += "<br>";
      }
      document.getElementById("pattern").innerHTML = result;
    }
  </script>
</head>
<body>
  <h2>Star Pattern</h2>
  <button onclick="displayPattern()">Display Pattern</button>
  <div id="pattern" style="white-space: pre;"></div>
</body>
</html>

```

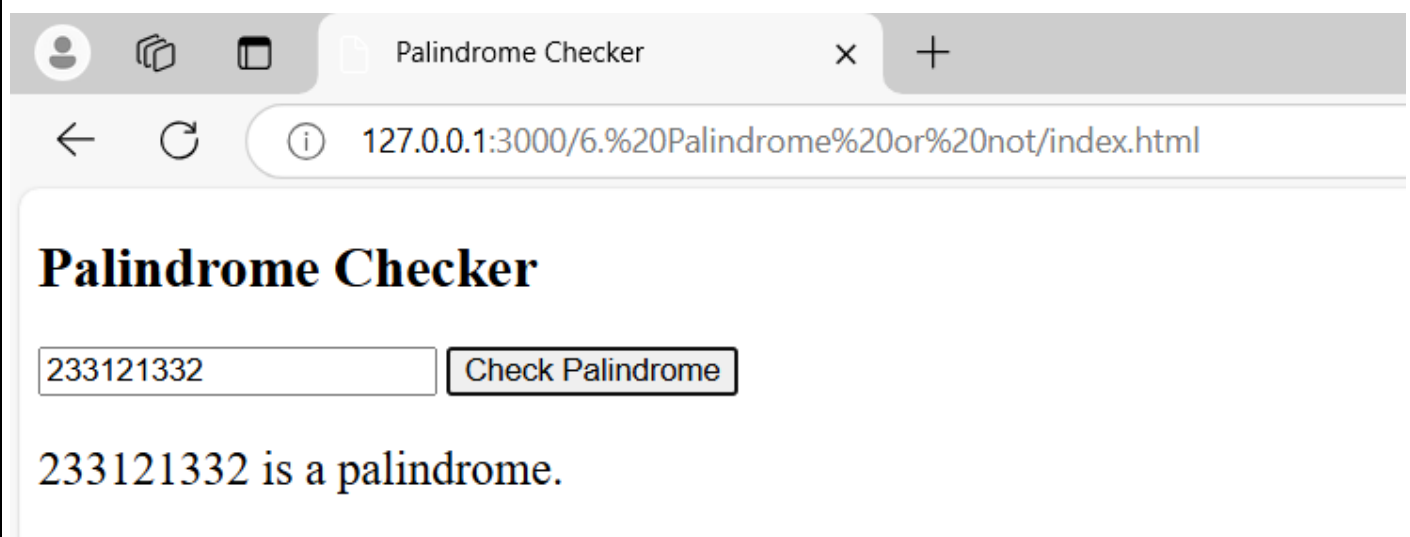
## Output



## 6. Write a program in JavaScript to check a number is palindrome or not.

```
<!DOCTYPE html>
<html>
<head>
  <title>Palindrome Checker</title>
  <script type="text/javascript">
    function checkPalindrome() {
      var num = document.getElementById("num").value.trim();
      if (num === "" || isNaN(num)) {
        alert("Please enter a number.");
        return;
      }
      let n = num.length;
      for (let i = 0; i < n / 2; i++) {
        if (num[i] !== num[n - i - 1]) {
          document.getElementById("result").innerText = num + " is not a palindrome.";
          return;
        }
      }
      document.getElementById("result").innerText = num + " is a palindrome.";
    }
  </script>
</head>
<body>
  <div class="container">
    <h2>Palindrome Checker</h2>
    <input type="number" id="num" placeholder="Enter number">
    <button onclick="checkPalindrome()">Check Palindrome</button>
    <p style="font-size: 20px;" id="result">Enter a Number to check Palindrome or not</p>
  </div>
</body>
</html>
```

## OUTPUT



## 7. Write a program in JavaScript to find the largest number among 10 numbers

```
<!DOCTYPE html>
<html>
<head>
  <title>Find Largest Number</title>
  <script type="text/javascript">
    function findLargestNumber() {
      const numbers = document.querySelectorAll('.number');

      const numArray = Array.from(numbers)
        .map(input => parseFloat(input.value))
        .filter(num => !isNaN(num));

      if (numArray.length !== numbers.length) {
        alert("Please enter valid numbers in all fields.");
        return;
      }
      const largest = Math.max(...numArray);
      document.getElementById("result").innerText = "The largest number is: " + largest;
    }
  </script>
</head>
<body>
  <h2>Find the Largest Number Among Ten Numbers</h2>
  <div style="display: flex; flex-wrap: wrap; gap: 5px;">
    <input type="number" class="number" placeholder="Enter number 1">
    <input type="number" class="number" placeholder="Enter number 2">
    <input type="number" class="number" placeholder="Enter number 3">
    <input type="number" class="number" placeholder="Enter number 4">
    <input type="number" class="number" placeholder="Enter number 5">
    <input type="number" class="number" placeholder="Enter number 6">
    <input type="number" class="number" placeholder="Enter number 7">
    <input type="number" class="number" placeholder="Enter number 8">
    <input type="number" class="number" placeholder="Enter number 9">
    <input type="number" class="number" placeholder="Enter number 10">
    <button onclick="findLargestNumber()">Find Largest</button>
  </div>
  <h3 id="result"></h3>
</body>
</html>
```

### Output

Find the Largest Number Among Ten Numbers

12	13	14	15	19
17	12	21	28	22

Find Largest

The largest number is: 28

## 8. Write a program in JavaScript, HTML, CSS to develop an application form.

```

<!DOCTYPE html>
<html lang="en">
<head>
  <title>Sign Up Form</title>
  <script type="text/javascript">
    function submitForm(event) {
      event.preventDefault();
      var name = document.getElementById("name").value;
      var email = document.getElementById("email").value;
      var password = document.getElementById("password").value;
      var age = document.getElementById("age").value;

      if (name === "" || email === "" || password === "" || age === "")
        alert("Please fill out all fields.");
      else if (password.length < 6)
        alert("Password must be at least 6 characters long.");
      else if (isNaN(age) || age < 18)
        alert("Please enter a valid age (18 or older).");
      else
        document.getElementById("result").innerHTML += `
          <tr>
            <td>${name}</td>
            <td>${email}</td>
            <td>${age}</td>
          </tr>
        `;
    }
  </script>
  <style>
    form,
    body {
      display: flex;
      flex-direction: column;
      justify-content: center;
      align-items: center;
      gap: 5px;
    }

    body {
      height: 100vh;
      margin: 0;
      font-family: Arial, Helvetica, sans-serif;
    }

    form {
      width: 300px;
      background-color: #f2f2f2;
      border: 1px solid lightgray;
      border-radius: 5px;
      box-shadow: 0px 0px 5px lightgray;
      padding: 10px;
    }

    input {
      padding: 5px;
      font-size: 19px;
      outline: none;
      border: 1px solid lightgray;
      border-radius: 5px;
    }
  </style>
</head>
<body>
  <div>
    <input type="text" id="name" value="Name" />
    <input type="text" id="email" value="Email" />
    <input type="password" id="password" value="Password" />
    <input type="text" id="age" value="Age" />
    <input type="button" value="Submit" />
  </div>
  <div id="result">
    <table border="1">
      <tr>
        <td>Name</td>
        <td>Email</td>
        <td>Age</td>
      </tr>
    </table>
  </div>
</body>
</html>

```

```

button {
  padding: 10px;
  font-size: large;
  border-radius: 5px;
  border: 1px solid lightgray;
}
td {
  padding: 5px;
}
</style>
</head>
<body>
  <form id="signUpForm" onsubmit="submitForm(event)">
    <h2>Sign Up Form</h2>
    <input type="text" id="name" name="name" placeholder="Enter your name">
    <input type="email" id="email" name="email" placeholder="Enter your email">
    <input type="password" id="password" name="password" placeholder="Enter your password">
    <input type="number" id="age" name="age" placeholder="Enter your age">
    <button type="submit">Sign Up</button>
  </form>
  <form>
    <h3>Sign Up User List</h3>
    <table id="result" style="border-collapse: collapse;" border="1">
      <tr><th>Name</th><th>Email</th><th>Age</th></tr>
    </table>
  </form>
</body>
</html>

```

## Output

**Sign Up Form**

Tapal

tapal@tapal.com

.....

20

Sign Up

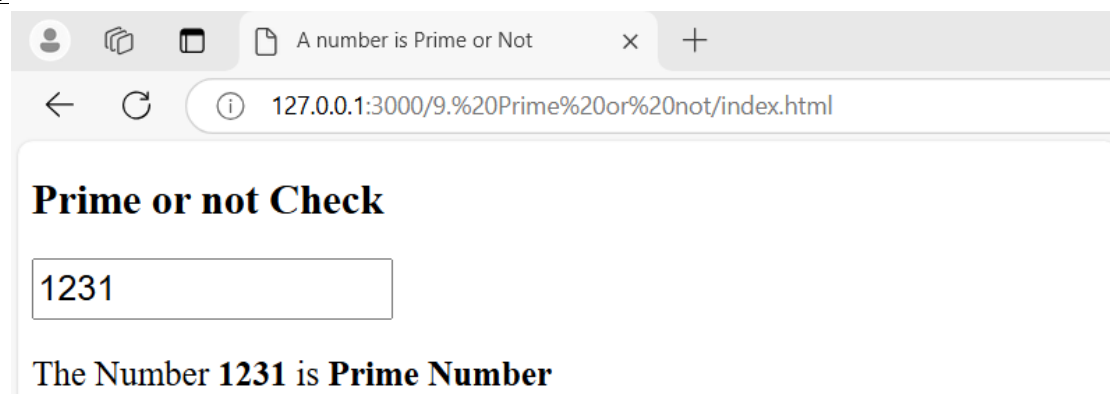
**Sign Up User List**

Name	Email	Age
Souvik	souvik@souvik.com	21
Sujoy	sujoy@sujoy.com	21
Tapal	tapal@tapal.com	20

## 9. Write a program in JavaScript to check a number is prime or not.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>A number is Prime or Not</title>
</head>
<body>
  <div class="container">
    <h2>Prime or not Check</h2>
    <input type="number" style="font-size: 20px; width: 200px; height: 30px;" class="number"
      placeholder="Enter the Value">
    <p style="font-size: 20px;" id="result">Please Enter a Positive Number Greater than 1</p>
  </div>
  <script>
    // Function to check if a number is prime
    function isPrime(num) {
      if (num <= 1) return false;
      for (let i = 2; i <= Math.sqrt(num); i++) if (num % i === 0) return false;
      return true;
    }
    function printOutput(currentValue) {
      if (!currentValue) document.getElementById("result").innerText = "Please Enter a Positive Number Greater than 1";
      else if (isPrime(Number(currentValue))) document.getElementById("result").innerHTML = `The Number
<b>${currentValue}</b> is <b>Prime Number</b>`;
      else document.getElementById("result").innerHTML = `The Number <b>${currentValue}</b> is <b>not a Prime
Number</b>`;
    }
    document.querySelector(".number").onkeydown = (event) => {
      var allowedKey = "1234567890";
      if (event.key.startsWith("Arrow")) return;
      event.preventDefault();
      if (event.key === "Backspace") {
        const input = event.target;
        input.value = input.value.slice(0, -1);
        printOutput(input.value);
      }
      if (allowedKey.includes(event.key)) {
        const input = event.target;
        input.value += event.key;
        printOutput(input.value);
      }
    };
  </script>
</body>
</html>
```

### OUTPUT



## 10. Write a program in JavaScript to develop a Digital Clock.

```

<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Digital Clock</title>
  <style>
    body {
      display: flex;
      flex-direction: column;
      justify-content: center;
      align-items: center;
      text-align: center;
      width: 100%;
      min-height: 100vh;
      margin: 0;
      padding: 0;
      font-family: 'Open Sans', 'Helvetica Neue', sans-serif;
    }

    .time {
      font-size: 140px;
      padding: 0;
      margin: 0;
    }

    .second {
      font-size: 60px;
    }

    .date {
      font-size: 35px;
    }
  </style>
</head>

<body>
  <p class="time"><span class="hours">00:00</span><span class="second">:01</span></p>
  <p class="date">01/01/2025</p>
  <script>
    function updateTime() {
      const now = new Date();
      document.querySelector(".hours").innerText = `${now.getHours()}:${now.getMinutes()}`;
      document.querySelector(".second").innerText = `${now.getSeconds()}`;

      const months = [
        'January',
        'February',
        'March',
        'April',
        'May',
        'June',
        'July',

```

```
'August',
'September',
'October',
'November',
'December'
];

const daysOfWeek = ['Sunday', 'Monday', 'Tuesday', 'Wednesday', 'Thursday', 'Friday', 'Saturday'];

var date = `${daysOfWeek[now.getDay()]}, ${months[now.getMonth() - 1]} `;
if (now.getDate() == 1) {
    date += `${now.getDate()}st`;
} else if (now.getDate() == 2) {
    date += `${now.getDate()}nd`;
} else if (now.getDate() == 3) {
    date += `${now.getDate()}rd`;
} else {
    date += `${now.getDate()}th`;
}
date += ` of ${now.getFullYear()}`;

document.querySelector(".date").innerText = date;
}
setInterval(updateTime, 100);
</script>
</body>

</html>
```

## OUTPUT

