SLIP 2:

Q2) . Write a JavaScript code to calculate maximum, minimum, sum and average of numbers in an array.

```
<html>
<head>
    <title>Array Operations</title>
    <style>
        .input-box {
margin-bottom: 10px;
        }
    </style>
</head>
<body>

    <div>
        <h2>Array Operations</h2>

        <div class="input-box">
            <label for="numbersInput">Enter numbers: </label>
            <input type="text" id="numbersInput">
        </div>

        <button onclick="calculateResults()">Calculate</button>
        <h3>Results:</h3>
        <p id="results"></p>
    </div>

    <script>         function calculateResults() {             const
numbers =
document.getElementById('numbersInput').value.split(',').map(Number);
const isValidInput = numbers.every(num => !isNaN(num));
            if
(isValidInput)
            {
               const max = Math.max(...numbers);
const min = Math.min(...numbers);                 const sum =
numbers.reduce((acc, val) => acc + val, 0);                 const
average = sum / numbers.length;
                const resultsText = `Array:
[${numbers}]
\nMaximum: ${max}
                                    \nMinimum: ${min}
                                    \nSum: ${sum}
```

```
                                    \nAverage: ${average.toFixed(2)}`;
document.getElementById('results').innerText = resultsText;
            }               else              {
document.getElementById('results').innerText = 'Invalid input.
Please enter valid numbers.';
             }
        }
    </script>

</body>
</html>
```

SLIP 3:

Q2) Write a JavaScript program to display a Multiplication table in tabular format using function

```
<html>
    <title>Multiplication Table</title>

    <style>
    table {
       border-collapse: collapse;
        width: 10%;
       margin: 20px 0;
        }
         table, td {
            border: 1px solid black;
        }

        td {
            padding: 5px;
           text-align: center;
        }
    </style>
</head>
<body>

    <h2>Multiplication Table Generator</h2>

    <label for="number">Enter a number:</label>
    <input type="number" id="number" min="1">
    <button onclick="generateTable()">Generate Table</button>
```

```
    <div id="tableContainer"></div>
    <script>
  function generateTable()
        {            var number = document.getElementById("number").value;
             if (isNaN(number) || number < 1)
        {
               alert("Please enter a valid positive number.");
               return;
        }
         var tableContent = "<table>";
             for (var i = 1; i <= 10; i++)
            {
                var product = number * i;
                tableContent += "<tr><td>" + product + "</td></tr>";
            }
        tableContent += "</table>";
        document.getElementById("tableContainer").innerHTML = tableContent;
        }
    </script>
</body>
</html>
```

SLIP 4:

Q2) Write a JavaScript function to validate email-id using regular expression.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Email Validation</title>
    <style>         body {
            font-family: Arial, sans-serif;
        }

        #result {
            margin-top: 10px;             color: green;
        }
```

```
        #error
        {
           margin-top: 10px;
                   color: red;
        }
    </style>
</head>
<body>

    <h2>Email Validation</h2>

    <label for="email">Enter your email:</label>
    <input type="text" id="email">
    <button onclick="validateEmail()">Validate Email</button>
    <div id="result"></div>
    <div id="error"></div>

    <script>
   function validateEmail()
         {
              var email = document.getElementById("email").value;
              var emailRegex = /^[^\s@]+@[^\s@]+\.[^\s@]+$/;
            if(emailRegex.test(email))
           {
            document.getElementById("result").innerHTML = "Valid email address!";
                document.getElementById("error").innerHTML = "";
         }
          else
         {
           document.getElementById("result").innerHTML="";
        document.getElementById("error").innerHTML = "Invalid email address. Please enter
       a valid email.";
           }
    }
    </script>

</body>
</html>
```

SLIP 5: . Write a JavaScript program to print the reverse of a number.

```
head>
   <title>Reverse Number</title>
   <style>
     Body
       {
           font-family: Arial, sans-serif;
       }

       #result
       {
         margin-top: 10px;
       }
   </style>
/head>
body>

   <h2>Reverse Number Program</h2>

   <label for="number">Enter a number:</label>
   <input type="number" id="number">
   <button onclick="reverseNumber()">Reverse Number</button>
   <div id="result"></div>

   <script>
     function reverseNumber()
                            {
                         var number = document.getElementById("number").value;
                if (isNaN(number))
                                {
                                  alert("Please enter a valid number.");
                                   return;
                                 }
            var reversedNumber =
            arseInt(number.toString().split('').reverse().join(''));

           document.getElementById("result").innerHTML = "Reversed Number: " + reversedNumber;
                            }
   </script>

/body>
/html>
```

SLIP 6:

Q2) Write a JavaScript program to accept a number from user and display that number in words (e.g. 226 Two Two Six

```
<html>
<head>
    <title>Number to Words</title>
</head>
<body>
      <h2>Number to Words Program</h2>

    <label for="number">Enter a number:</label>
    <input type="number" id="number">
    <button onclick="convertToWords()">Convert to Words</button>
    <div id="result"></div>

    <script>
     function convertToWords() {
            var number = document.getElementById("number").value;
          var words = numberToWords(number);
         document.getElementById("result").innerHTML = "In Words: " + words;
        }
         function numberToWords(number) {
         var units = ["", "One", "Two", "Three", "Four", "Five", "Six",
"Seven", "Eight", "Nine"];

           var teens = ["", "Eleven", "Twelve", "Thirteen", "Fourteen","Fifteen", "Sixteen",
"Seventeen", "Eighteen", "Nineteen"];
           var tens = ["", "Ten", "Twenty", "Thirty", "Forty", "Fifty", "Sixty", "Seventy", "Eighty",
"Ninety"];

           var digits = number.toString().split('').map(Number).reverse();
           var result = "";

           for (var i = 0; i < digits.length; i++) {
       if (i === 0)
               result = units[digits[i]] + result;
      else if (i === 1)
             result = digits[i] === 1 ? teens[digits[i - 1]] + result : tens[digits[i]] + result;
      else if (i === 2)
             result = units[digits[i]] + " Hundred " + result;
           }
     return result.trim(); }
```

```
</script>
</body>
</html>
```

SLIP 7:

Q2) Write a JavaScript program to print factorial of a given number.

```
<html>
<head>
    <title>Factorial Calculator</title>
</head>
<body>

    <h2>Factorial Calculator</h2>

    <label for="number">Enter a number:</label>
    <input type="number" id="number">
    <button onclick="calculateFactorial()">Calculate Factorial</button>

    <div id="result"></div>

    <script>
        const calculateFactorial = () => {
            const number = parseInt(document.getElementById("number").value);
            const factorial = (n) => n <= 1 ? 1 : n * factorial(n - 1);
            document.getElementById("result").innerHTML = `Factorial of
${number} is: ${factorial(number)}`;
        };
    </script>

</body>
</html>
```

SLIP 9:

Q2) Write a JavaScript code to greet the user according to the current timing.

```
<html>
<head>
   <title>Greeting based on Time</title>
</head>
```

```
<body>
    <h2>Greeting Program</h2>
    <label for="name">Enter your name:</label>
    <input type="text" id="name"><br>

    <label for="time">Enter the current time (optional, 24-hour format):</label>
    <input type="number" id="time" min="0" max="23">

    <button onclick="getGreeting()">Get Greeting</button>

    <p id="greeting"></p>

    <script>
        function getGreeting() {
            const userName = document.getElementById("name").value;
            const userTime = document.getElementById("time").value;

            let currentHour;

            if (userTime === "") {
                const currentTime = new Date();
                currentHour = currentTime.getHours();
            } else {
                currentHour = parseInt(userTime);
            }
            if (!userName || isNaN(currentHour) || currentHour < 0 ||
currentHour > 23) {
                alert("Please enter a valid name and time (0-23).");
                return;
            }

            let greeting;

            if (currentHour < 12) {
                greeting = `Good morning, ${userName}!`;
            } else if (currentHour < 18) {
                greeting = `Good afternoon, ${userName}!`;
            } else {
                greeting = `Good evening, ${userName}!`;
            }
            document.getElementById("greeting").innerHTML = greeting;
        }
    </script>
</body>
</html>
```

SLIP 11:

Q2) 2. Write a menu driven program using JavaScript to find square root, power and absolute value of a given number and validate them.

```
<html>
<head>
    <title>Math Operations</title>
</head>
<body>

    <h2>Math Operations</h2>

    <label for="number">Enter a number:</label>
    <input type="text" id="number">

    <label for="operation">Select an operation:</label>
    <select id="operation">
        <option value="sqrt">Square Root</option>
        <option value="power">Power</option>
        <option value="absolute">Absolute Value</option>
    </select>

    <button onclick="performOperation()">Perform Operation</button>

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

    <script>
        function performOperation() {
            const numberInput = document.getElementById("number").value;
            const operation = document.getElementById("operation").value;

            if (!isValidNumber(numberInput)) {
                alert("Please enter a valid number.");
                return;
            }
            const number = parseFloat(numberInput);

            let result;
            switch (operation) {
                case "sqrt":
                    result = Math.sqrt(number);
                    break;
                case "power":
                    result = Math.pow(number, 2); // You can modify the power
value as needed
```

```
                    break;
                case "absolute":
                    result = Math.abs(number);
                    break;
                default:
                    alert("Invalid operation selected.");
                    return;
            }

            document.getElementById("result").innerHTML = `Result: ${result}`;
        }

        function isValidNumber(input) {
            return !isNaN(parseFloat(input)) && isFinite(input);
        }
    </script>

</body>
</html>
```

SLIP 12:

Q2) Write a JavaScript Program to read a number from user, store its factors into the array and display that array

```
<html>

<head>
    <title>Factor Array</title>
</head>
<body>

    <h2>Factor Array Program</h2>

    <label for="number">Enter a number:</label>
    <input type="number" id="number">
    <button onclick="generateFactorArray()">Generate Factor Array</button>

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

    <script>
        function generateFactorArray() {
            const number = parseInt(document.getElementById("number").value);
```

```
            const factors = Array.from({ length: number }, (_, i) => i +
1).filter(n => number % n === 0);
            document.getElementById("result").innerHTML = `Factors:
${factors.join(", ")}`;
        }
    </script>

</body>
</html>
```