Programno:1. Write a JavaScript program to perform find the area and circumference of a circle

```
<html>

<body>
   <h1>Area and circumference of a circle</h1>
   Enter the radius for your circle:
   <input type="text" id="txtRadius" />
   <input type="button" value="Calculate" onClick=CalculateArea() />

   <script>
      function CalculateArea() {
         var radius = document.getElementById('txtRadius').value;
         alert("The area of the circle is " + (radius * radius * Math.PI));
      }
   </script>
</body>

</html>
```

2. Write a JavaScript program to check whether a given number is perfect, abundant or deficient. Use alert box to display the output.

```
<html>


<body>


   <h1>Perfect Number</h1>
   Enter a number:
   <input type="text" id="num" />
   <input type="button" value="Find" onClick="findPerfect()" />


   <script>
      function findPerfect() {
         var n = document.getElementById('num').value;
         var sum = 0;
         for (var i = 0; i < n; i++) {
            if (n % i == 0) {
               sum = sum + i;
            }
         }
```

```
        if (sum == n)
            alert("The number is perfect ");
        else if (sum > n)
            alert("The number is abundant");
        else
            alert("The number is deficient");
    }
  </script>

</body>

</html>
```

3**. Design a JavaScript program to display the multiplication table by accepting the number and the limit.**

```
<html>

<body>

  <h1>Multiplication Table</h1>
  Enter a number:
  <input type="text" id="num" /><br /><br />
  Enter limit:
  <input type="text" id="limit" />
  <input type="button" value="Find" onClick="multiply()" />
  <p id="result"></p>
  <script>
    function multiply() {
      var n = document.getElementById('num').value;
      var l = document.getElementById('limit').value;
      var out = "";
      for (var i = 1; i < l; i++) {
        out = out + i + " * " + n + " = " + i * n + "<br/>";
      }
```

```
        document.getElementById("result").innerHTML = out;
    }
  </script>

</body>

</html>
```

4. Design a form that accepts two integers. Provide 4 buttons for Add, Subtract, Multiply, Divide. Add JavaScript program to add, subtract, multiply and divide the given numbers when these buttons are clicked. Use output element to display the results.

```
<html>

<head>
  <script>
    function add() {
      var a = parseInt(document.getElementById('a').value);
      var b = parseInt(document.getElementById('b').value);
      r = a + b;
      document.getElementById("result").innerHTML = a + " + " + b + " = " + r;
    }

    function sub() {
      var a = parseInt(document.getElementById('a').value);
      var b = parseInt(document.getElementById('b').value);
      r = a - b;
      document.getElementById("result").innerHTML = a + " - " + b + " = " + r;
    }

    function mul() {
      var a = parseInt(document.getElementById('a').value);
      var b = parseInt(document.getElementById('b').value);
      r = a * b;
      document.getElementById("result").innerHTML = a + " * " + b + " = " + r;
```

```
    }

    function div() {
      var a = parseInt(document.getElementById('a').value);
      var b = parseInt(document.getElementById('b').value);
      r = a / b;
      document.getElementById("result").innerHTML = a + " / " + b + " = " + r;
    }
  </script>
</head>

<body>

  <h1>Calculator</h1>
  <form>
    Enter number 1:
    <input type="text" id="a" /><br />
    Enter number 2:
    <input type="text" id="b" /><br />
    <input type="button" value="Add" onClick="add()" />
    <input type="button" value="Subtract" onClick="sub()" />
    <input type="button" value="Multiply" onClick="mul()" />
    <input type="button" value="Divide" onClick="div()" />
  </form>
  <p id="result"></p>


</body>

</html>
```

5. Write a JavaScript program to store different colors in an array and change the background color of the page using these array elements

```
<html>
```

```
<body id="body">
   <input type="button" onmouseover="changeBg(0)" value="Red">
   <input type="button" onmouseover="changeBg(1)" value="Yellow">
   <input type="button" onmouseover="changeBg(2)" value="Blue">
   <input type="button" onmouseover="changeBg(3)" value="Green">
   <input type="button" onmouseover="changeBg(4)" value="Orange">
   <script>
      function changeBg(i) {
         const colors = ["red", "yellow", "blue", "green", "orange"];
         document.body.style.background = colors[i];
      }
   </script>
</body>

</html>
```

6. Write a JavaScript program to check whether a given string is palindrome or Not

```
<html>

<body>
   <h1>Palindrome</h1>
   Enter String: <input type="text" id="txt" />
   <input type="button" value="Check" onClick=checkPalindrome()/>
   <p id="result"></p>

<script>
   function checkPalindrome() {
      var str = document.getElementById('txt').value;
      const len = str.length;
      var flag = 1;
```

```
    for (var i = 0; i < len / 2; i++) {
      if (str[i] !== str[len - 1 - i]) {
        flag = 0;
      }
    }
    if (flag == 1) {
      document.getElementById("result").innerHTML = "It is a palindrome";
    }
    else {
      document.getElementById("result").innerHTML = "It is not a palindrome";
    }

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

7. Write a JavaScript Program to create an Array and read values using Prompt popup box and display the sum of elements in an Alert Box

```
<html>

<body>
  <script>
    var n = window.prompt("Enter size of the array");
    var arr = new Array();
    var sum = 0;
    for (let i = 1; i <= n; i++) {
      arr[i] = parseInt(window.prompt("Enter element " + i));
      sum = sum + arr[i];
    }
    alert("Sum =" + sum);
  </script>
```

```
</body>

</html>
```

8. Change the textcolour andback colour of a TextBox using onfocus and onBlur event

```
<html>

<body>
   Enter text :
   <input type="text" id="txtbox" onfocus=change(0) onblur=change(1)>
   <script>
      function change(i) {
         if (i == 0) {
            document.getElementById("txtbox").style.backgroundColor = "lightgrey";
            document.getElementById("txtbox").style.color = "blue";
         }
         else {
            document.getElementById("txtbox").style.backgroundColor = "white";
            document.getElementById("txtbox").style.color = "black";
         }
      }
   </script>

</body>

</html>
```

9. Write a JavaScript program to display Capital of a country using onchange event. The county is selected from a select box and capital is displayed on a TextBox

```
<html>

<body>
   Select a country :
   <select id="countries" onchange=getCapital()>
      <option value="0">Australia</option>
      <option value="1">Poland</option>
      <option value="2">Mexico</option>
      <option value="3">Germany</option>
      <option value="4">India</option>
   </select>
   <br/><br/>
   Capital: <input type="text" id="txtbox">
   <script>
      function getCapital() {
         var capitals=["Canberra","Warsaw","Mexico City","Berlin","New Delhi"];
         var i = document.getElementById("countries").selectedOptions[0].value;
         document.getElementById("txtbox").value = capitals[i];
      }
   </script>

</body>

</html>
```

10. Write a JavaScript program for Password validation based on the following conditions

- **Password and confirm password must be same**
- **Length of password must be greater than 8 characters**

```
<html>

<body>
```

```
    <h1>Password Validation</h1>
    Password: <input type="text" id="pass"><br />
    Confirm Password: <input type="password" id="confirm"><br />
    <input type="submit" onClick="verify()">
    <p id="txt"></p>
    <script>
        function verify() {
            document.getElementById("txt").innerHTML = "";
            if (document.getElementById("pass").value !=
document.getElementById("confirm").value) {
                document.getElementById("txt").innerHTML += "Password and confirm password
must be same.";
            }
            if (document.getElementById("pass").value.length < 8) {
                document.getElementById("txt").innerHTML += "<br/>Password must be greater
than 8 characters.";
            }
        }
    </script>

</body>

</html>
```