Roll no: 42112	Name: Shreyas Chandolkar
Division: 5	Batch: P5

Practical No: 1 Write a JavaScript program to calculate area of triangle, area of rectangle and area of circle.

Code:

Index.html

```html
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta http-equiv="X-UA-Compatible" content="IE=edge">

  <meta name="viewport" content="width=device-width, initial-scale=1.0">

  <script src="script.js"></script>

  <title>Exp 1</title>

</head>

<body>

  <h2>Area Calculator</h2>

  <br><br>

  <div style="float: left; width: 450px;">

    <h3>Triangle (Heron's Formula)</h3>

    <label>Side 1</label>

    <input type="number" id="side1" >

    <br><br>

    <label>Side 2</label>
```

```html
<input type="number" id="side2" >

<br><br>

<label>Side 3</label>

<input type="number" id="side3" >

<br><br>

<button onclick="triangle()">Calculate</button>

<p>Area of Triangle = <span id="triangle"></span></p>

</div>

<div style="float: right; width: 240px;">

<h3>Circle</h3>

<label>Radius</label>

<input type="number" id="radius"  size="15" onfocus="this.value="">

<br><br>

<button onclick="circle()">Calculate</button>

<p>Area of Circle = <span id="circle"></span></p>

<br><br>

</div>

<div style="float: right; width: 550px;">

<h3>Rectangle</h3>

<label for="Length">Length</label>

<input type="number" id="length"  size="15" onfocus="this.value="">

<br><br>

<label for="width">Width</label>
```

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```html
<input type="number" id="width"  size="15" onfocus="this.value="">

<br><br>

<button onclick="rectangle()">Calculate</button>

<p>Area of Rectangle = <span id="rectangle"></span></p>

<br><br>

</div>

</body>

</html>
```

Script.js

```javascript
function triangle()

{

  var s1 = parseFloat(document.getElementById("side1").value);

  var s2 = parseFloat(document.getElementById("side2").value);

  var s3 = parseFloat(document.getElementById("side3").value);

  var sum = (s1+s2+s3)/2;

  var area = Math.sqrt(sum*((sum-s1)*(sum-s2)*(sum-s3)));

  if (s1>0 && s2> 0 && s3>0){

    if(s1+s2 > s3 && s1+s3>s2 && s2+s3>s1){

      if (area > 0){

        document.getElementById("triangle").innerHTML = area.toFixed(2);

      }else{

        document.getElementById("triangle").innerHTML = "Invalid Input";

      }
```

```
    }

    else{

      document.getElementById("triangle").innerHTML = "Sides of triangle are invalid";

    }

  }

  else{

    document.getElementById("triangle").innerHTML = "Invalid Input";

  }

}

function rectangle()

{

  var s1 = parseFloat(document.getElementById("length").value);

  var s2 = parseFloat(document.getElementById("width").value);

  if(s1 >0 && s2 >0){

    var area = s1*s2;

    document.getElementById("rectangle").innerHTML = area.toFixed(2);

  }

  else{

    document.getElementById("rectangle").innerHTML = "Invalid Input";

  }

}
```

```javascript
function circle()

{

    var r = parseFloat(document.getElementById("radius").value);

    if(r > 0){

        var area = (22/7)*r*r;

        document.getElementById("circle").innerHTML = area.toFixed(2);

    }else{

        document.getElementById("circle").innerHTML = "Invalid Input";

    }

}

window.onload = function() {

    document.getElementById('side1').value = '';

    document.getElementById('side2').value = '';

    document.getElementById('side3').value = '';

    document.getElementById('length').value = '';

    document.getElementById('width').value = '';

    document.getElementById('radius').value = '';

}
```

Output:

Area Calculator

Triangle (Heron's Formula)

Side 1 `12`
Side 2 `12`
Side 3 `12`

Calculate

Area of Triangle = 62.35

Rectangle

Length `-12`
Width `9`

Calculate

Area of Rectangle = Invalid Input

Circle

Radius `8`

Calculate

Area of Circle = 201.14