Internet and Web systems: Lab 3 Wednesday

Github Link:
https://github.com/PrasannaNatarajan/CSD402_Internet_and_Web_Systems/tree/master/lab4

Index.html

```
<!DOCTYPE html>
<html>
<head>
	<link rel="stylesheet" type="text/css" href="css/main.css">
	<script type="text/javascript" src="js/main.js"></script>
	<title>Javascript</title>
</head>
<body onload="resize_canvas()" >
	<header><h1> Select a Shape</h1></header> <br>
	<div class="main_content">
		<section class="form_left">
			<form >
			  <input onclick="draw_shape()" id = "circle" type="radio" name="shape"
value="circle" checked> Circle <br>
			  <input onclick="draw_shape()" id = "rectangle" type="radio"
name="shape" value="rectangle"> Rectangle <br>
			  <input onclick="draw_shape()" id = "square" type="radio" name="shape"
value="square"> Square<br>
			  <input onclick="draw_shape()" id = "triangle" type="radio"
name="shape" value="triangle"> Triangle <br>
			  <input onclick="draw_shape()" id = "hexagon" type="radio" name="shape"
value="hexagon"> Hexagon <br>
			</form>
		</section>

		<div class="get_inputs" id="get_inputs">


		</div>
	</div>
	<canvas id="myCanvas" style=" ">

	</canvas>
</body>
</html>
```

Main.js

```
function resize_canvas(){
	var c = document.getElementById("myCanvas")
	var ctx = c.getContext("2d");
	ctx.canvas.width = window.innerWidth;
	ctx.canvas.height = window.innerWidth;
	redraw();
```

```
}

// Display custom canvas. In this case it's a blue, 5 pixel
// border that resizes along with the browser window.
function redraw() {
   var context = document.getElementById("myCanvas").getContext("2d");
   context.strokeStyle = 'blue';
   context.lineWidth = '5';
   context.strokeRect(0, 0, window.innerWidth, window.innerWidth);
}

function draw_shape(argument) {
        // body...

        var c = document.getElementById("myCanvas");
        var ctx = c.getContext("2d");

        var shape = document.querySelector('input[name="shape"]:checked').value;
        console.log(shape);
        console.log(c.width);
        console.log(c.height);

        var get_inputs = document.getElementById("get_inputs");
        ctx.clearRect(0, 0, c.width, c.height);

        if(shape === "square"){
                ctx.beginPath();
                ctx.rect(150,150,150,150);
                ctx.stroke();
                ctx.fillStyle = '#8ED6FF';
                ctx.fill();
                get_inputs.innerHTML = '<label> Side: </label> <input type="text"
id="square_side"> <input type="button" value = "calculate" onClick="calc_square()"> <br> <p
id="sq_area">_______</p>';

        }

        else if(shape ==="circle"){
                ctx.beginPath();
                ctx.arc(95,50,40,0,2*Math.PI);
                ctx.stroke();
                ctx.fillStyle = '#8ED6FF';
                ctx.fill();
                get_inputs.innerHTML = '<label> Radius: </label> <input type="text"
id="circle_radius"> <input type="button" value = "calculate" onClick="calc_circle()"> <br> <p
id="cir_area">_______</p>';
        }

        else if(shape ==="triangle"){
                ctx.beginPath();
```

```
    ctx.moveTo(75, 50);
    ctx.lineTo(100, 75);
    ctx.lineTo(100, 25);
    ctx.closePath();
       ctx.stroke();
       ctx.fillStyle = '#8ED6FF';
       ctx.fill();
       get_inputs.innerHTML = '<label> Length of side 1: </label> <input type="text"
id="tri_s1"> <br> <label>Length of side 2: </label> <input type = "text" id = "tri_s2">'+'<br>
<label>Length of side 3:  </label> <input type = "text" id = "tri_s3">'+
              '<br> <input type="button" value = "calculate" onClick="calc_triangle()"> <br><p
id="tri_area">_______</p>';
       }

       else if(shape ==="rectangle"){
              ctx.beginPath();
              ctx.rect(20,20,150,100);
              ctx.stroke();
              ctx.fillStyle = '#8ED6FF';
              ctx.fill();
              get_inputs.innerHTML = '<label> Length: </label> <input type="text"
id="rect_len"> <br> <label> Width: </label> <input type = "text" id = "rect_wid">'+
              '<br> <input type="button" value = "calculate" onClick="calc_rectangle()">
<br><p id="rect_area">_______</p>';

       }

       else if(shape ==="hexagon"){

              ctx.beginPath();
           ctx.moveTo(99, 0);
           ctx.lineTo(99, 0);
           ctx.lineTo(198, 50);
           ctx.lineTo(198, 148);
           ctx.lineTo(99, 198);
           ctx.lineTo(99, 198);
           ctx.lineTo(1, 148);
           ctx.lineTo(1,50);
           ctx.closePath();
              ctx.stroke();
              ctx.fillStyle = '#8ED6FF';
              ctx.fill();
              get_inputs.innerHTML = '<label> Side: </label> <input type="text" id="hex_side">
<input type="button" value = "calculate" onClick="calc_hexagon()"> <br> <p
id="hex_area">_______</p>';

       }

}
```

```
function calc_square(){

        var c = document.getElementById("myCanvas");
        var ctx = c.getContext("2d");
        var side = document.getElementById("square_side").value;
        var area = side *side;
        var perimeter = 4 *side;
        var put = document.getElementById("sq_area");
        put.innerHTML = '<label> Area: </label>'+area +'<br>' +
'<label>Perimeter:</label>'+perimeter;
        ctx.clearRect(0, 0, c.width, c.height);
        ctx.beginPath();
        ctx.rect(150,150,side,side);
        ctx.stroke();
        ctx.fillStyle = '#8ED6FF';
        ctx.fill();

}

function calc_circle(){

        var c = document.getElementById("myCanvas");
        var ctx = c.getContext("2d");
        var radius = document.getElementById("circle_radius").value;
        var area = 3.14 * radius *radius;
        var circumference = 2 * 3.14 * radius;

        var put = document.getElementById("cir_area");
        put.innerHTML =  '<label> Area: </label>'+area +'<br>' +
'<label>Circumference:</label>'+circumference;
        var r = radius;
        ctx.clearRect(0, 0, c.width, c.height);
        ctx.beginPath();
        ctx.arc(95,50,r,0,2*Math.PI);
        ctx.stroke();
        ctx.fillStyle = '#8ED6FF';
        ctx.fill();

}

function calc_rectangle(){

        var c = document.getElementById("myCanvas");
        var ctx = c.getContext("2d");
        var len = document.getElementById("rect_len").value;
        var wid = document.getElementById("rect_wid").value;
        var area = len * wid;
        var perimeter = (2 * len) + (2 * wid);
```

```
        var put = document.getElementById("rect_area");
        put.innerHTML = '<label> Area: </label>'+area +'<br>' +
'<label>Perimeter:</label>'+perimeter;
        ctx.clearRect(0, 0, c.width, c.height);
        ctx.beginPath();
        ctx.rect(150,150,len,wid);
        ctx.stroke();
        ctx.fillStyle = '#8ED6FF';
        ctx.fill();

}

function calc_triangle(){
        var c = document.getElementById("myCanvas");
        var ctx = c.getContext("2d");
        var s1 = document.getElementById("tri_s1").value;
        var s2 = document.getElementById("tri_s2").value;
        var s3 = document.getElementById("tri_s3").value;
        var s = (s1+s2+s3 )/2
        var area = Math.sqrt(s*(s-s1)*(s-s2)*(s-s3));
        var perimeter = 2 *s;
        var put = document.getElementById("tri_area");
        put.innerHTML = '<label> Area: </label>'+area +'<br>' +
'<label>Perimeter:</label>'+perimeter;
}

function calc_hexagon(){
        var c = document.getElementById("myCanvas");
        var ctx = c.getContext("2d");
        var side = document.getElementById("hex_side").value;

        var area = 3 * (Math.sqrt(3)/2) * side * side;
        var perimeter = 6* side;
        var put = document.getElementById("hex_area");
        put.innerHTML = '<label> Area: </label>'+area +'<br>' +
'<label>Perimeter:</label>'+perimeter;
}
```

Main.css

```
.main_content{
        display: grid;
        grid-template-columns: 1fr 1fr;
}

.form_left{
        grid-column-start:1;
        grid-column-end:2;
        float: left;
}
```

```css
.get_inputs{
        grid-column-start:2;
        grid-column-end:3;
}
```