SCS2208 Rapid Application Development

Lab Sheet - Basic JS

Part II

**Question 01**

* JavaScript file – Q1

function Alert() {

    let Name = document.getElementById("name").value;

    let Hometown = document.getElementById("hometown").value;

    if (Name != "" && Hometown != "") {

        alert("Name: " + Name + "\nHome town: " + Hometown);

    }

}

* HTML file – Q1

<!DOCTYPE *html*>

<html *lang*="en">

<meta *charset*="utf-8">

<meta *name*="viewport" *content*="width=device-width, initial-scale=1">

<head>

    <title>Question 01</title>

    <link *rel*="stylesheet" *href*="common.css">

</head>

<body>

    <script *src*="Q1.js"></script>

    <div *class*="window">

        <form>

            <label *for*="Name">Name:</label><br>

            <input *type*="text" *id*="name" *name*="name" *class*="box" *placeholder*="Insert a name.." *required*><br><br>

            <label *for*="hometown">Hometown:</label><br>

            <input *type*="text" *id*="hometown" *name*="hometown" *class*="box" *placeholder*="Insert home town.."

*required*><br><br>

            <button *type*="submit" *class*="button" *onClick*="Alert()">Click</button>

        </form>

    </div>

</body>

</html>

* CSS file - (common for Q1, Q2, Q3, Q4, Q6, Q7 and Q8)

  .window {

    display: inline-block;

    position: fixed;

    border: none;

    border-radius: 5px;

    background-color: #cacaca;

    padding: 40px 30px;

    font-size: 18px;

  }

  .button {

    display: inline-block;

    background-color: green;

    border: none;

    border-radius: 5px;

    font-size: 15px;

    color: white;

    text-align: center;

    padding: 10px 40px;

  }

  .box {

    padding: 10px 12px;

  }

**Question 02**

* JavaScript file – Q2

function showtime(item) {

    const date = new Date();

    let hour = date.getHours();

    let min = date.getMinutes();

    if (min < 10) {

        if (hour > 12) {

            document.getElementById("time").innerHTML = "Now the time is " + hour - 12 + ":0" + min + "PM";

        }

        else {

            document.getElementById("time").innerHTML = "Now the time is " + hour + ":0" + min + "AM";

        }

    } else {

        if (hour > 12) {

            document.getElementById("time").innerHTML = "Now the time is " + hour - 12 + ":" + min + "PM";

        }

        else {

            document.getElementById("time").innerHTML = "Now the time is " + hour + ":" + min + "AM";

        }

    }

    if (min == 0) {

        item.innerHTML = "Remains " + (24 - hour) + " hours more";

    }

    else {

        item.innerHTML = "Remains " + (23 - hour) + " hours and " + (60 - min) + " minutes more";

    }

}

* HTML file – Q2

<!DOCTYPE *html*>

<html *lang*="en">

<meta *charset*="utf-8">

<meta *name*="viewport" *content*="width=device-width, initial-scale=1">

<head>

    <title>Question 02</title>

    <link *rel*="stylesheet" *href*="common.css">

</head>

<body>

    <script *src*="Q2.js"></script>

    <div *class*="window">

        <p *id*="time"></p>

        <button *type*="button" *class*="button" *onclick*="showtime(this)">Time</button>

    </div>

</body>

</html>

**Question 03**

* JavaScript file – Q3

function AlertAGE() {

    let Name = document.getElementById("name").value;

    let BDay = document.getElementById("bday").value;

    if (Name != "" && BDay != "") {

        const cdate = new Date();

        const bdate = new Date(document.getElementById("bday").valueAsDate);

        let CY = cdate.getFullYear();

        let CM = cdate.getMonth();

        let BY = bdate.getFullYear();

        let BM = bdate.getMonth();

        if (CM > BM) {

            alert("Age: " + (CY - BY) + " years and " + (CM - BM) + " months.");

        }

        else {

            alert("Age: " + (CY - BY - 1) + " years and " + (12 + CM - BM) + " months.");

        }

    }

}

* HTML file – Q3

<!DOCTYPE *html*>

<html *lang*="en">

<meta *charset*="utf-8">

<meta *name*="viewport" *content*="width=device-width, initial-scale=1">>

<head>

    <title>Question 03</title>

    <link *rel*="stylesheet" *href*="common.css">

</head>

<body>

    <script *src*="Q3.js"></script>

    <div *class*="window">

        <form>

            <label *for*="Name">Name:</label><br>

            <input *type*="text" *id*="name" *name*="name" *class*="box" *placeholder*="Insert a name.." *required*><br><br>

            <label *for*="bday">Birthday:</label><br>

            <input *type*="date" *id*="bday" *name*="bday" *class*="box" *placeholder*="Insert birthday.." *required*><br><br>

            <button *type*="submit" *class*="button" *onClick*="AlertAGE()">Click</button>

        </form>

    </div>

</body>

</html>

**Question 04**

* JavaScript file – Q4

function AreaCal() {

    let Height = document.getElementById("height").value;

    let Width = document.getElementById("width").value;

    if (Height >= 0 && Width >= 0) {

        document.getElementById("area").innerHTML = "Area of the rectangle is " + Height \* Width + "cm<sup>2</sup>";

    }

    else {

        alert("Please enter valid number for value!")

    }

}

* HTML file – Q4

<!DOCTYPE *html*>

<html *lang*="en">

<meta *charset*="utf-8">

<meta *name*="viewport" *content*="width=device-width, initial-scale=1">

<head>

    <title>Question 04</title>

    <link *rel*="stylesheet" *href*="common.css">

</head>

<body>

    <script *src*="Q4.js"></script>

    <div *class*="window">

        <form>

            <label *for*="Width">Width:</label><br>

            <input *type*="number" *id*="width" *name*="width" *class*="box" *placeholder*="Insert width" *required*><br><br>

            <label *for*="Height">Height:</label><br>

            <input *type*="text" *id*="height" *name*="height" *class*="box" *placeholder*="Insert height" *required*><br><br>

            <button *type*="button" *class*="button" *onClick*="AreaCal()">Find Area</button>

            <p *id*="area"></p>

        </form>

    </div>

</body>

</html>

**Question 05**

* JavaScript file – Q5

function changecolor(btn) {

  btn.style.backgroundColor = "blue";

}

* HTML file – Q5

<!DOCTYPE *html*>

<html *lang*="en">

<meta *charset*="utf-8">

<meta *name*="viewport" *content*="width=device-width, initial-scale=1">

<head>

    <title>Question 05</title>

    <link *rel*="stylesheet" *href*="Q5.css">

</head>

<body>

    <script *src*="Q5.js"></script>

    <h2>Purchase your item</h2>

    <table>

        <tr>

            <td><a *href*="####">Free trial</a></td>

        </tr>

        <tr>

            <td>Help you to design <br>provide security <br>manage plans</td>

        </tr>

        <tr>

            <td><button *type*="submit" *class*="button" *onClick*="changecolor(this)">Try it now</button></td>

        </tr>

    </table>

</body>

</html>

* CSS file – Q5

table {

    border-collapse: collapse;

    width: 20%;

}

td {

    border: 1px solid #cccccc;

    padding: 10px;

    text-align: left;

}

tr:nth-child(odd) {

    background-color: #cccccc;

}

.button {

    display: inline-block;

    background-color: rgb(10, 188, 233);

    border: none;

    border-radius: 5px;

    font-size: 15px;

    color: white;

    text-align: center;

    padding: 10px 40px;

}

**Question 06**

* JavaScript file – Q6

function sqrroot() {

    let Value = document.getElementById("number").value;

    if (Value >= 0) {

        alert("Square root of " + Value + " is " + Math.sqrt(Value));

    }

    else {

        alert("Invalid input! Please enter valid input");

    }

}

* HTML file – Q6

<!DOCTYPE *html*>

<html *lang*="en">

<meta *charset*="utf-8">

<meta *name*="viewport" *content*="width=device-width, initial-scale=1">

<head>

    <title>Question 06</title>

    <link *rel*="stylesheet" *href*="common.css">

</head>

<body>

    <script *src*="Q6.js"></script>

    <div *class*="window">

        <form>

            <label *for*="number">Insert the number</label>

            <input *type*="number" *id*="number" *name*="number" *class*="box" *placeholder*="Insert value" *required*><br><br>

            <button *type*="button" *class*="button" *onClick*="sqrroot()">Find root</button>

        </form>

    </div>

</body>

</html>

**Question 07**

* JavaScript file – Q7

function changeothers(changedbox) {

    var boxset = document.getElementsByClassName("cbox");

    var cdbox = document.getElementById(changedbox.id)

    if (cdbox.checked) {

        for (var i = 0; i < boxset.length; i++) {

            if (boxset[i].checked) {

                boxset[i].disabled = false;

            }

            else {

                boxset[i].disabled = true;

            }

        }

    }

    else {

        for (var i = 0; i < boxset.length; i++) {

            boxset[i].disabled = false;

        }

    }

}

* HTML file – Q7

<!DOCTYPE *html*>

<html *lang*="en">

<meta *charset*="utf-8">

<meta *name*="viewport" *content*="width=device-width, initial-scale=1">

<head>

    <title>Question 07</title>

    <link *rel*="stylesheet" *href*="common.css">

</head>

<body>

    <script *src*="Q7.js"></script>

    <div *class*="window">

        <form>

            <h2>Available Hotel Packages</h2>

            <input *type*="checkbox" *id*="wedding" *name*="wedding" *class*="cbox" *value*="1" *onclick*="changeothers(this)">

            <label *for*="wedding"> Wedding package</label><br>

            <input *type*="checkbox" *id*="bday" *name*="bday" *class*="cbox" *value*="1" *onclick*="changeothers(this)">

            <label *for*="bday"> Birthday package</label><br>

            <input *type*="checkbox" *id*="normal" *name*="normal" *class*="cbox" *value*="1" *onclick*="changeothers(this)">

            <label *for*="normal"> Normal function package</label><br>

            <input *type*="checkbox" *id*="dout" *name*="dout" *class*="cbox" *value*="1" *onclick*="changeothers(this)">

            <label *for*="dout"> Day out package</label><br><br>

            <button *type*="submit" *class*="button">Submit</button>

        </form>

    </div>

</body>

</html>

**Question 08**

* JavaScript file – Q8

function calculate() {

    let Amount = document.getElementById("amount").value;

    document.getElementById("results").innerHTML = "20% of the value: " + Amount \* 0.2 + "<br>Total: " + Amount + " + " + Amount \* 0.2 + " = " + Amount \* 1.2;

}

* HTML file – Q8

<!DOCTYPE *html*>

<html *lang*="en">

<meta *charset*="utf-8">

<meta *name*="viewport" *content*="width=device-width, initial-scale=1">

<head>

    <title>Question 08</title>

    <link *rel*="stylesheet" *href*="common.css">

</head>

<body>

    <script *src*="Q8.js"></script>

    <div *class*="window">

        <form>

            <label *for*="amount">insert the amount: </label><br><br>

            <input *type*="number" *id*="amount" *name*="amount" *class*="box" *placeholder*="Insert an amount"

*onmouseout*="calculate()"><br><br>

            <p *id*="results"></p>

        </form>

    </div>

</body>

</html>

**Question 09**

* JavaScript file – Q9

function GetResult() {

    let mark = document.getElementById("mark").value;

    let sub = document.getElementById("subject").value;

    if (mark >= 35 && mark <= 100) {

        document.getElementById("results").innerHTML = "Subject PASSED: Congratulations! you have passed this subject!";

    } else {

        document.getElementById("results").innerHTML = "Subject FAILED: Sorry! you have to work hard for <b>" + sub + "</b> subject...";

    }

}

* HTML file – Q9

<!DOCTYPE *html*>

<html *lang*="en">

<meta *charset*="utf-8">

<meta *name*="viewport" *content*="width=device-width, initial-scale=1">

<head>

    <title>Question 09</title>

    <link *rel*="stylesheet" *href*="Q9.css">

</head>

<body>

    <script *src*="Q9.js"></script>

    <div *class*="window">

        <form>

            <label *for*="subject">Subject: </label>

            <input *type*="text" *id*="subject" *name*="subject" *class*="box" *placeholder*="Enter subject" *required*><br><br>

            <label *for*="mark">Marks: </label>

            <input *type*="number" *id*="mark" *name*="mark" *class*="box" *placeholder*="Insert value" *required*><br><br>

            <button *type*="button" *class*="button" *onClick*="GetResult()">Results</button><br>

            <p *id*="results"></p>

        </form>

    </div>

</body>

</html>

* CSS file – Q9

.window {

  display: inline-block;

  position: fixed;

  border: none;

  border-radius: 5px;

  background-color: #cacaca;

  padding: 40px 30px;

  font-size: 18px;

}

.button {

  display: inline-block;

  background-color: rgb(241, 69, 233);

  border: none;

  border-radius: 5px;

  font-size: 15px;

  color: white;

  text-align: center;

  padding: 10px 100px;

}

.box {

  padding: 10px 12px;

}

**Question 10 –** JavaScript file

var TYPING = [];

var DISPLAY = '';

var ANSWER;

var EXPRESSION = '';

function button(character) {

    TYPING.push(character);

    if (TYPING.length > 1) {

        DISPLAY = '';

    }

    for (i = 0; i < TYPING.length; i++) {

        DISPLAY = DISPLAY + TYPING[i];

    }

    document.getElementById('display').innerHTML = DISPLAY;

}

function calculate() {

    document.getElementById('display').innerHTML = '';

    for (i = 0; i < TYPING.length; i++) {

        EXPRESSION = EXPRESSION + TYPING[i];

    }

    ANSWER = eval(EXPRESSION);

    document.getElementById('display').innerHTML = ANSWER;

    cleartyping();

    DISPLAY = ANSWER;

}

function clearscreen() {

    DISPLAY = '';

    EXPRESSION = '';

    document.getElementById('display').innerHTML = DISPLAY;

    cleartyping();

}

function cleartyping() {

    while (TYPING.length > 0) {

        TYPING.pop();

    }

}

* HTML file – Q10

<!DOCTYPE *html*>

<html *lang*="en">

<meta *charset*="utf-8">

<meta *name*="viewport" *content*="width=device-width, initial-scale=1">

<head>

    <title>Question 10</title>

    <link *rel*="stylesheet" *href*="Q10.css">

</head>

<body>

    <script *src*="Q10.js"></script>

    <table>

        <tr>

            <td *colspan*="4" *id*="display" *class*="black"> </td>

        </tr>

        <tr *class*="grey">

            <td *onclick*="button('+')">+</td>

            <td *onclick*="button('-')">-</td>

            <td *onclick*="button('\*')">x</td>

            <td *onclick*="button('/')">/</td>

        </tr>

        <tr>

            <td *onclick*="button('7')">7</td>

            <td *onclick*="button('8')">8</td>

            <td *onclick*="button('9')">9</td>

            <td *class*="orange" *rowspan*="4" *onclick*="calculate()">=</td>

        </tr>

        <tr>

            <td *onclick*="button('4')">4</td>

            <td *onclick*="button('5')">5</td>

            <td *onclick*="button('6')">6</td>

        </tr>

        <tr>

            <td *onclick*="button('1')">1</td>

            <td *onclick*="button('2')">2</td>

            <td *onclick*="button('3')">3</td>

        </tr>

        <tr>

            <td *onclick*="button('0')">0</td>

            <td *onclick*="button('.')">.</td>

            <td *onclick*="clearscreen()">AC</td>

        </tr>

    </table>

</body>

</html>

* CSS file – Q10

table {

    display: inline-table;

    border-collapse: collapse;

    width: 20%;

    border-radius: 10px;

}

td {

    border: 1px solid rgb(150, 150, 150);

    padding: 10px;

    text-align: center;

}

.black {

    background-color: black;

    color: white;

    text-align: right;

    height: 50px;

}

.grey {

    background-color: rgb(197, 197, 197)

}

.orange {

    background-color: rgb(255, 115, 0)

}

Name: Bhanuka Rajakaruna

Index no: 20001411

GitHub link: <https://github.com/BhanukaRajk/SCS2208_RAD/tree/main/Labsheet_JS_II>

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