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**Registration Number: 19BCE2119**

**Course: Internet and Web Programming (CSE3002)**

**Question : 1**

**Develop a Password Strength Meter application using HTML, CSS and JS.**

**Password strength calculation**

* **Only Number or Characters - Weak - Display in red colour.**
* **Combination of Numbers and Characters - Moderate - Display in Orange Colour.**
* **Combination of Numbers, Characters with upper case - Strong - Display in Blue Colour.**
* **Combination of Numbers, characters with upper case and symbol - Uncrackable - Display in Green Colour.**

**Use the mouseover event to show the number of letters in the password. If the password strength is Weak or Moderate, suggest a randomly generated strong password.**

**CODE**

<!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">

    <title>Document</title>

    <style>

        #inp {

            font-weight: bold;

        }

        .xinp{

            margin-left:10px;

            width:200px;

        }

        #dropdown{

            border:1px solid black;

            background-color:rgb(228, 250, 255);

            width:206px;

            height:22px;

            display:none;

        }

        #dropdown:hover{

            background-color:rgb(117, 193, 255);

            color:white;

        }

    </style>

</head>

<body>

    <div>

        <div>Password:</div>

        <input class=xinp type=text id=inp autocomplete="off"><div id=len style="display:inline-block"></div>

        <div class=xinp id=dropdown></div>

    </div>

    <script>

        var generatePassword = () => {

            var chars = "abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789";

            var retval = "";

            var len = Math.floor(Math.random() \* (8) + 10);

            for (var i = 0; i < len; i++) {

                retval += chars.charAt(Math.floor(Math.random() \* chars.length));

            }

            return retval;

        }

        var checkStrength = (val) => {

            if (val.length < 8) {

                return 0;

            }

            var pattern = /^[a-z]\*$|^[0-9]\*$/; //lowercase characters OR numbers only

            if (pattern.test(val)) {

                return 1;

            }

            pattern = /^[a-z0-9]\*$/; //lowercase characters AND numbers

            if (pattern.test(val)) {

                return 2;

            }

            pattern = /^[a-zA-Z0-9]\*$/; //lowercase and uppercase characters and numbers

            if (pattern.test(val)) {

                return 3;

            }

            pattern = /^[a-zA-Z0-9-\_~+=;:'",<.>/?`!@#$%^&\*()]\*$/; //lowercase and uppercase characters, symbols and numbers

            if (pattern.test(val)) {

                return 4;

            }

            return 5;

        }

        var randomPassword = generatePassword();

        while (checkStrength(randomPassword) != 3) {

            randomPassword = generatePassword();

        }

        var dropdown=document.getElementById("dropdown")

        var inp = document.getElementById('inp');

        var len = document.getElementById('len');

        inp.addEventListener("mouseover",()=>{

            len.innerText=inp.value.length;

            len.style.display="inline-block";

        } )

        inp.addEventListener("mouseout",()=>{

            len.innerText=inp.value.length;

            len.style.display="none";

        } )

        dropdown.addEventListener('click', ()=>{

            inp.value=dropdown.innerText;

            dropdown.style.display = "none";

            inp.style.color = "blue";

        })

        inp.addEventListener('click', () => {

            if(checkStrength(inp.value)<3){

                dropdown.style.display = "block";

                dropdown.innerText = randomPassword;

            }

        })

        inp.addEventListener('blur', () => {

            setTimeout(function(){

                dropdown.style.display = 'none';

            },700);

        })

        inp.addEventListener('input', () => {

            document.getElementById("dropdown").innerText = randomPassword;

            var val = inp.value;

            //console.log(val);

            var strength = checkStrength(val);

            // 0: length short(<8)

            // 1: weak

            // 2: moderate

            // 3: strong

            // 4: unbreakable

            // 5: undefined

            //console.log(randomPassword);

            switch (strength) {

                case 0:

                    inp.style.color = "black";

                    dropdown.style.display = "block";

                    dropdown.innerText = randomPassword;

                    len.innerText=inp.value.length;

                    break;

                case 1:

                    inp.style.color = "red";

                    dropdown.style.display = "block";

                    dropdown.innerText = randomPassword;

                    len.innerText=inp.value.length;

                    break;

                case 2:

                    inp.style.color = "orange";

                    dropdown.style.display = "block";

                    dropdown.innerText = randomPassword;

                    len.innerText=inp.value.length;

                    break;

                case 3:

                    inp.style.color = "blue";

                    dropdown.style.display = "none";

                    len.innerText=inp.value.length;

                    break;

                case 4:

                    inp.style.color = "green";

                    dropdown.style.display = "none";

                    len.innerText=inp.value.length;

                    break;

                case 5:

                    inp.style.color = "black";

                    dropdown.style.display = "block";

                    dropdown.innerText = randomPassword;

                    len.innerText=inp.value.length;

                    break;

            }

        })

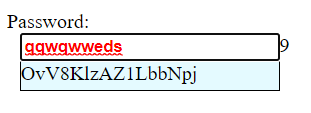
    </script>

</body>

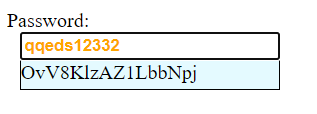
</html>

**SCREENSHOTS**

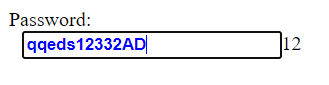
Weak password

****

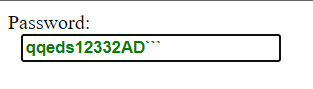
Moderate password



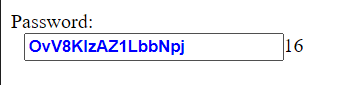
Strong password



Unbreakable password



Password suggestion



# Question : 2

# Develop a JavaScript program that will determine whether a customer has exceeded the credit limit on a charge account. For each customer, the following facts are available:

# On submit of the registration form welcome the user with the username.

# Balance at the beginning of the month

# Total of all items charged by this customer this month

# Total of all credits applied to this customer's account this month

# Allowed credit limit

# CODE

<!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">

    <title>Document</title>

    <style>

        .a{

            text-align:right

        }

    </style>

</head>

<body>

    <h3 id=welcomebox>&nbsp</h3>

    <form>

        <table>

            <tr>

                <td class="a">Username:</td>

                <td><input name=username id=username required></td>

            </tr>

            <tr>

                <td class="a">Balance:</td>

                <td><input type=number name=balance id=balance required></td>

            </tr>

            <tr>

                <td class="a">Total Charges:</td>

                <td><input type=number name=totalcharges id=totalcharges required></td>

            </tr>

            <tr>

                <td class="a">Total Applied credits:</td>

                <td><input type=number name=totalappliedcredits id=totalappliedcredits required></td>

            </tr>

            <tr>

                <td class="a">Allowed Credits:</td>

                <td><input type=number name=allowedcredits id=allowedcredits required></td>

            </tr>

            <tr><td class="a"><input type=reset></td><td class="a"><button type=button onClick="myfunction()">Submit</button></td></tr>

        </table>

    </form>

    <div id=statusbox></div>

    <script>

        statusbox=document.getElementById('statusbox');

        welcomebox=document.getElementById('welcomebox');

        var myfunction =()=>{

            var username = document.getElementById('username').value;

            var balance = document.getElementById('balance').value;

            var totalcharges = document.getElementById('totalcharges').value;

            var totalappliedcredits = document.getElementById('totalappliedcredits').value;

            var allowedcredits = document.getElementById('allowedcredits').value;

            var allowance = parseFloat(balance) + parseFloat(totalcharges) - parseFloat(totalappliedcredits);

            if(parseFloat(allowance) <= parseFloat(allowedcredits)){

                statusbox.innerText="Credit Limit Not Exceeded";

                statusbox.style.color="green";

            }

            else{

                statusbox.innerText="Credit Limit Exceeded";

                statusbox.style.color="red";

            }

            welcomebox.innerText="Welcome "+username

        }

    </script>

</body>

</html>

# SCREENSHOTS

