Name: Gaurav Kumar Singh

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;
    }
```

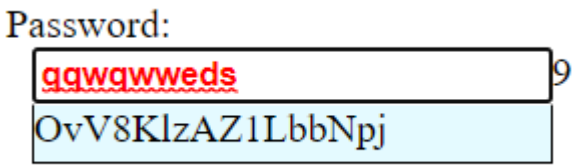
```
    return 5;
}

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;
```

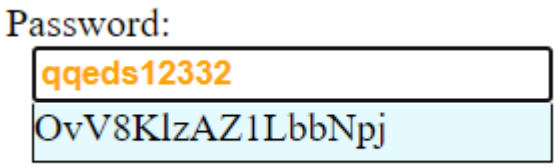
```
            len.innerText=inp.value.length;
            break;
        case 2:
            inp.style.color = "orange";
            dropdown.style.display = "block";
            dropdown.innerText = randomPassword;
            len.innerText=inp.value.length;
            break;
        case 3:
            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

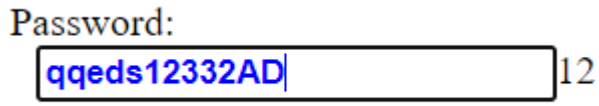
Weak password



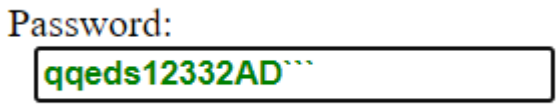
Moderate password



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> </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

Username:

Balance:

Total Charges:

Total Applied credits:

Allowed Credits:

Reset Submit

Welcome Gaurav

Username: Gaurav

Balance: 10

Total Charges: 12

Total Applied credits: 5

Allowed Credits: 34

Reset Submit

Credit Limit Not Exceeded

Welcome Gaurav

Username:	Gaurav
Balance:	10
Total Charges:	12
Total Applied credits:	5
Allowed Credits:	5

Reset Submit

Credit Limit Exceeded