Web Lab Exercise10

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Subject	Web Programming
Slot	L15+L16+L19+L20
Venue	AB3 – 202

Exercise 10: JavaScript Functions and Form Selection Methods

1. Assume that you are appointed as Data Analytics Engineer for a hospital. Ages for 8 patients are given below.

P-Id	Name	Age
1	Alen	39
2	Deena	47
3	Diana	21
4	Jack	54
5	Jain	23
6	Kelvin	61
7	Louis	69
8	Rex	49

Write a JavaScript program using appropriate functions to

(i) sort the data in descending order according to the patient's age and display the same

(ii) check whether a particular P-Id is presented in the list

(iii) filter the patients by age range.

```
// Patient Data
const patients = [
    { P_Id: 1, Name: "Alen", Age: 39 },
    { P_Id: 2, Name: "Deena", Age: 47 },
    { P_Id: 3, Name: "Diana", Age: 21 },
    { P_Id: 4, Name: "Jack", Age: 54 },
    { P_Id: 5, Name: "Jain", Age: 23 },
    { P_Id: 6, Name: "Kelvin", Age: 61 },
    { P_Id: 7, Name: "Louis", Age: 69 },
    { P_Id: 8, Name: "Rex", Age: 49 }
];

// (i) Sort patients in descending order by age
function sortByAgeDesc(patients) {
    return patients.sort((a, b) => b.Age - a.Age);
}

// (ii) Check if a P-Id exists in the list
function isPatientPresent(patients, id) {
    return patients.some(patient => patient.P_Id === id);
}

// (iii) Filter patients within an age range
function filterByAgeRange(patients, minAge, maxAge) {
    return patients.filter(patient => patient.Age >= minAge && patient.Age <=
maxAge);
}
```

```
// Testing the functions
console.log("Sorted Patients by Age (Descending):");
console.log(sortByAgeDesc([...patients])); // Copy to avoid modifying original
array

console.log("\nIs P-Id 4 present?", isPatientPresent(patients, 4));
console.log("Is P-Id 10 present?", isPatientPresent(patients, 10));

console.log("\nPatients aged between 40 and 60:");
console.log(filterByAgeRange(patients, 40, 60));
```

```
PS C:\Users\ASUS\Desktop\Satya\Sem 6 Classnotes\Web_Programing\Ex10> node "c:\
Users\ASUS\Desktop\Satya\Sem 6 Classnotes\Web_Programing\Ex10\q1\q1.js"
Sorted Patients by Age (Descending):
[
  { P_Id: 7, Name: 'Louis', Age: 69 },
  { P_Id: 6, Name: 'Kelvin', Age: 61 },
  { P_Id: 4, Name: 'Jack', Age: 54 },
  { P_Id: 8, Name: 'Rex', Age: 49 },
  { P_Id: 2, Name: 'Deena', Age: 47 },
  { P_Id: 1, Name: 'Alen', Age: 39 },
  { P_Id: 5, Name: 'Jain', Age: 23 },
  { P_Id: 3, Name: 'Diana', Age: 21 }
]

Is P-Id 4 present? true
Is P-Id 10 present? false

Patients aged between 40 and 60:
[
  { P_Id: 2, Name: 'Deena', Age: 47 },
  { P_Id: 4, Name: 'Jack', Age: 54 },
  { P_Id: 8, Name: 'Rex', Age: 49 }
]
PS C:\Users\ASUS\Desktop\Satya\Sem 6 Classnotes\Web_Programing\Ex10>
```

2. Write a JavaScript program that performs the following actions using **different DOM selection methods**:

(a) **Using** `getElementById`**:**
Select the `<h1>` element and change its text to `"Updated Title"`.

(b) **Using** `getElementsByName`**:**
Select the input field with the `name="username"` and set its value to `"John Doe"`.
Select all radio buttons with the name `gender` and print the value of the selected radio button.

(c) **Using** `getElementsByTagName`**:**
Count and print the total number of `<p>` elements on the page.
Select all `<li>` elements inside the `<ul>` and print their text content to the console.

(d) **Using** `getElementsByClassName`**:**
Change the background color of all elements with the class `input-field` to `lightblue`.

(e) **Using** `querySelector`**:**
Select the first `<p>` element with the class `info` and update its text to `"This is the first info paragraph"`.
Select the first radio button with the name `gender` and check it programmatically.

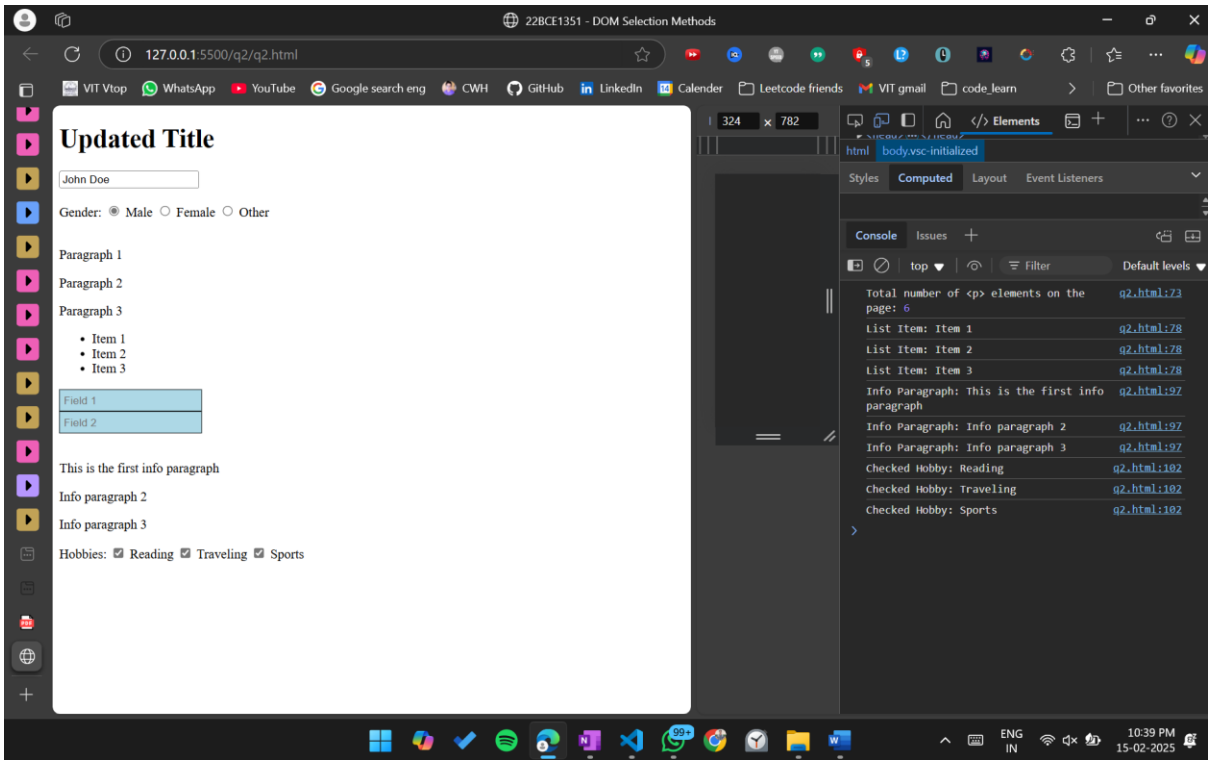
(f) **Using** `querySelectorAll`**:**
Select all `<p>` elements with the class `info`, loop through them, and print their text content.
Select all checkboxes with the class `hobby`, loop through them, set them as checked and print the checked values.

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>DOM Selection Methods</title>
    <style>
        .input-field { padding: 5px; border: 1px solid black; }
    </style>
</head>
<body>

    <!-- (a) getElementById -->
    <h1 id="main-title">Original Title</h1>
```

```
    <!-- (b) getElementsByName -->
    <input type="text" name="username" placeholder="Enter name">
    <br><br>

    <label>Gender:</label>
    <input type="radio" name="gender" value="Male"> Male
    <input type="radio" name="gender" value="Female"> Female
    <input type="radio" name="gender" value="Other"> Other
    <br><br>

    <!-- (c) getElementsByTagName -->
    <p>Paragraph 1</p>
    <p>Paragraph 2</p>
    <p>Paragraph 3</p>

    <ul>
        <li>Item 1</li>
        <li>Item 2</li>
        <li>Item 3</li>
    </ul>

    <!-- (d) getElementsByClassName -->
    <input type="text" class="input-field" placeholder="Field 1">
    <input type="text" class="input-field" placeholder="Field 2">
    <br><br>

    <!-- (e) querySelector -->
    <p class="info">Info paragraph 1</p>
    <p class="info">Info paragraph 2</p>
    <p class="info">Info paragraph 3</p>

    <!-- (f) querySelectorAll -->
    <label>Hobbies:</label>
    <input type="checkbox" class="hobby" value="Reading"> Reading
    <input type="checkbox" class="hobby" value="Traveling"> Traveling
    <input type="checkbox" class="hobby" value="Sports"> Sports
    <br><br>

    <script>
        // (a) Using getElementById - Change h1 text
        document.getElementById("main-title").textContent = "Updated Title";

        // (b) Using getElementsByName
        // Set the value of the input field
        document.getElementsByName("username")[0].value = "John Doe";

        // Get all radio buttons with name="gender" and print selected value
        const genderRadios = document.getElementsByName("gender");
```

```
        for (let radio of genderRadios) {
            if (radio.checked) {
                console.log("Selected Gender:", radio.value);
            }
        }

        // (c) Using getElementsByTagName
        // Count and print total <p> elements on the page
        const paragraphs = document.getElementsByTagName("p");
        console.log("Total number of <p> elements on the page:",
paragraphs.length);

        // Print all <li> elements inside <ul>
        const listItems = document.getElementsByTagName("li");
        for (let item of listItems) {
            console.log("List Item:", item.textContent);
        }

        // (d) Using getElementsByClassName
        // Change background color of all .input-field elements
        const inputFields = document.getElementsByClassName("input-field");
        for (let field of inputFields) {
            field.style.backgroundColor = "lightblue";
        }

        // (e) Using querySelector
        // Select first <p> with class "info" and update text
        document.querySelector(".info").textContent = "This is the first info
paragraph";

        // Select first radio button with name="gender" and check it
        document.querySelector("input[name='gender']").checked = true;

        // (f) Using querySelectorAll
        // Select all <p> with class "info" and print text
        document.querySelectorAll(".info").forEach(p => console.log("Info
Paragraph:", p.textContent));

        // Select all checkboxes with class "hobby", check them and print
checked values
        document.querySelectorAll(".hobby").forEach(checkbox => {
            checkbox.checked = true;
            console.log("Checked Hobby:", checkbox.value);
        });

    </script>

</body>
```

```
</html>
```


22BCE1351 - DOM Selection Methods
127.0.0.1:5500/q2/q2.html
Updated Title
John Doe
Gender: Male Female Other
Paragraph 1
Paragraph 2
Paragraph 3
Item 1
Item 2
Item 3
Field 1
Field 2
This is the first info paragraph
Info paragraph 2
Info paragraph 3
Hobbies: Reading Traveling Sports
Elements
Console
Issues
Total number of <p> elements on the page: 6 q2.html:73
List Item: Item 1 q2.html:78
List Item: Item 2 q2.html:78
List Item: Item 3 q2.html:78
Info Paragraph: This is the first info paragraph q2.html:97
Info Paragraph: Info paragraph 2 q2.html:97
Info Paragraph: Info paragraph 3 q2.html:97
Checked Hobby: Reading q2.html:102
Checked Hobby: Traveling q2.html:102
Checked Hobby: Sports q2.html:102
10:39 PM
15-02-2025

3. Design an order form as below and implement a JavaScript program to pass the entries to another page and display the receipt.

Index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Grocery Order Form</title>
    <style>
        body {
            font-family: Arial, sans-serif;
            background-color: #a0a78c;
            display: flex;
            justify-content: center;
            align-items: center;
            height: 100vh;
        }
        .container {
            background: #6e755f;
            padding: 20px;
            border-radius: 10px;
            color: white;
            width: 300px;
```

```
        }
        .input-field, .quantity {
            width: 100%;
            padding: 5px;
            margin: 5px 0;
        }
        .product {
            display: flex;
            align-items: center;
            justify-content: space-between;
        }
        .submit-btn {
            background: #b88d5b;
            border: none;
            padding: 10px;
            width: 100%;
            color: white;
            font-size: 16px;
            cursor: pointer;
        }
    </style>
</head>
<body>

    <div class="container">
        <h2>Grocery Order Form</h2>
        <form id="orderForm">
            <label>Customer Name:</label>
            <input type="text" id="name" class="input-field" required>

            <label>Phone Number:</label>
            <input type="text" id="phone" class="input-field" required>

            <label>Email:</label>
            <input type="email" id="email" class="input-field" required>

            <h3>Products</h3>

            <div class="product">
                <input type="checkbox" id="apple" value="Apple"
class="product-checkbox">
                <label for="apple">Apple ($10/kg)</label>
                <input type="number" id="appleQty" class="quantity" min="0"
value="0">
            </div>

            <div class="product">
```

```
                <input type="checkbox" id="banana" value="Banana"
class="product-checkbox">
                <label for="banana">Banana ($5/kg)</label>
                <input type="number" id="bananaQty" class="quantity" min="0"
value="0">
            </div>

            <div class="product">
                <input type="checkbox" id="avocado" value="Avocado"
class="product-checkbox">
                <label for="avocado">Avocado ($7/kg)</label>
                <input type="number" id="avocadoQty" class="quantity" min="0"
value="0">
            </div>

            <button type="submit" class="submit-btn">Submit</button>
        </form>
    </div>

    <script>
        document.getElementById("orderForm").addEventListener("submit",
function(event) {
            event.preventDefault();

            const name = document.getElementById("name").value;
            const phone = document.getElementById("phone").value;
            const email = document.getElementById("email").value;

            const orderDetails = [];

            const products = [
                { name: "Apple", price: 10, qty:
document.getElementById("appleQty").value, checked:
document.getElementById("apple").checked },
                { name: "Banana", price: 5, qty:
document.getElementById("bananaQty").value, checked:
document.getElementById("banana").checked },
                { name: "Avocado", price: 7, qty:
document.getElementById("avocadoQty").value, checked:
document.getElementById("avocado").checked }
            ];

            products.forEach(product => {
                if (product.checked && product.qty > 0) {
                    orderDetails.push(`${product.name}:${product.qty}:${produc
t.price}`);
                }
            });
```

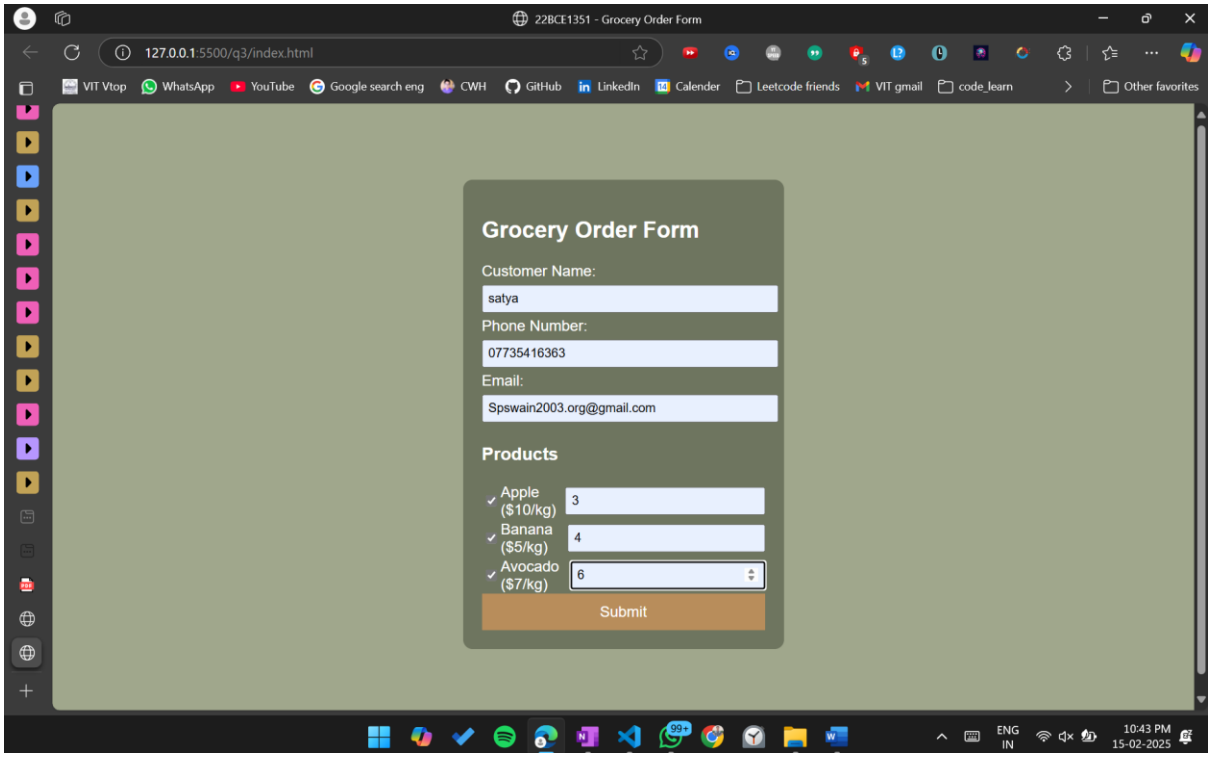
```
            const queryString =
`name=${encodeURIComponent(name)}&phone=${encodeURIComponent(phone)}&email=${e
ncodeURIComponent(email)}&order=${encodeURIComponent(orderDetails.join(","))}`
;
            window.location.href = `receipt.html?${queryString}`;
        });
    </script>

</body>
</html>
```

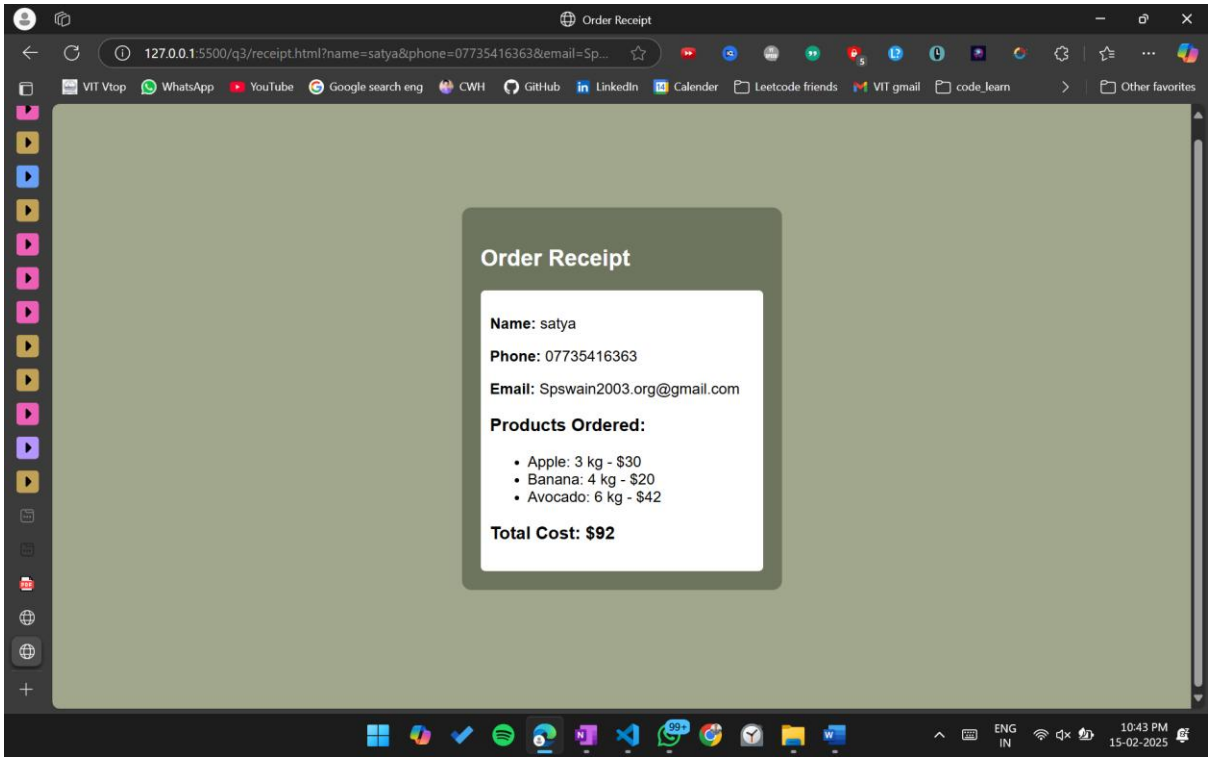
Receipt.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Order Receipt</title>
    <style>
        body {
            font-family: Arial, sans-serif;
            background-color: #a0a78c;
            display: flex;
            justify-content: center;
            align-items: center;
            height: 100vh;
        }
        .container {
            background: #6e755f;
            padding: 20px;
            border-radius: 10px;
            color: white;
            width: 300px;
        }
        .receipt {
            background: white;
            color: black;
            padding: 10px;
            border-radius: 5px;
        }
    </style>
</head>
<body>

    <div class="container">
```

```
        <h2>Order Receipt</h2>
        <div class="receipt" id="receipt">
            <p>Loading receipt...</p>
        </div>
    </div>

    <script>
        function getQueryParams() {
            const params = {};
            const queryString = window.location.search.substring(1);
            const paramPairs = queryString.split("&");

            paramPairs.forEach(pair => {
                const [key, value] = pair.split("=");
                params[decodeURIComponent(key)] = decodeURIComponent(value);
            });

            return params;
        }

        function generateReceipt() {
            const params = getQueryParams();
            const receiptDiv = document.getElementById("receipt");

            let receiptHTML = `<p><strong>Name:</strong> ${params.name}</p>`;
            receiptHTML += `<p><strong>Phone:</strong> ${params.phone}</p>`;
            receiptHTML += `<p><strong>Email:</strong> ${params.email}</p>`;

            if (params.order) {
                const orders = params.order.split(",");
                let total = 0;
                receiptHTML += "<h3>Products Ordered:</h3><ul>";

                orders.forEach(item => {
                    const [product, qty, price] = item.split(":");
                    const cost = qty * price;
                    total += cost;
                    receiptHTML += `<li>${product}: ${qty} kg -
$${cost}</li>`;
                });

                receiptHTML += `</ul><h3>Total Cost: $${total}</h3>`;
            } else {
                receiptHTML += "<p>No items ordered.</p>";
            }

            receiptDiv.innerHTML = receiptHTML;
        }
```

```
        window.onload = generateReceipt;
    </script>

</body>
</html>
```




Order Receipt
127.0.0.1:5500/q3/receipt.html?name=satya&phone=07735416363&email=Sp...
VIT Vtop
WhatsApp
YouTube
Google search eng
CWH
GitHub
LinkedIn
Calender
Leetcode friends
VIT gmail
code_learn
Other favorites
Order Receipt
Name: satya
Phone: 07735416363
Email: Spswain2003.org@gmail.com
Products Ordered:
Apple: 3 kg - $30
Banana: 4 kg - $20
Avocado: 6 kg - $42
Total Cost: $92
ENG
IN
10:43 PM
15-02-2025


Thank you!