Assignment:-3

Practical Questions on JSON with HTML & JavaScript

1. Create and Display JSON Data in HTML

```
<html>
<body>
<div id="output"></div>
<script>
    var person = { "name": "John", "age": 30, "city": "New York" };
    document.getElementById("output").innerHTML = person.name + ", " +
person.age + ", " + person.city;
</script>
</body>
</html>
```

2. Display JSON Array in an HTML Table

```
<html>
<body>
<table border="1" id="studentTable"></table>
<script>
    var students = [
        { "name": "Alice", "roll": 101, "grade": "A" },
        { "name": "Bob", "roll": 102, "grade": "B" }
    ];
    var table = "<tr><th>Name</th><th>Roll</th><th>Grade</th></tr>";
    students.forEach(s => {
        table += "<tr><td>" + s.name + "</td><td>" + s.roll + "</td><td>" +
s.grade + "</td></tr>";
    });
    document.getElementById("studentTable").innerHTML = table;
</script>
</body>
</html>
```

3. Fetch JSON from an External File and Display it in HTML

```
<!-- data.json should contain a JSON array of employee objects -->
<html>
<body>
<ul id="employeeList"></ul>
<script>
    fetch('data.json')
    .then(res => res.json())
    .then(data => {
        let html = "";
        data.forEach(emp => {
            html += "<li>" + emp.name + " - " + emp.department + " - $" +
emp.salary + "</li>";
        });
        document.getElementById("employeeList").innerHTML = html;
    });
</script>
</body>
</html>
```

4. Convert JSON to a JavaScript Object and Access Its Values

```
<html>
<body>
<div id="info"></div>
<script>
    var jsonStr = '{"name":"Emma","age":25,"country":"UK"}';
    var obj = JSON.parse(jsonStr);
    document.getElementById("info").innerHTML = obj.name + " from " +
obj.country;
```

```
</script>
</body>
</html>

5. JSON Stringify and Parse Example
<html>
<body>
<div id="userInfo"></div>
<script>
    var user = { name: "Sam", email: "sam@example.com", phone: "1234567890" };
    var jsonString = JSON.stringify(user);
    var parsedUser = JSON.parse(jsonString);
    document.getElementById("userInfo").innerHTML = parsedUser.name + " - " +
parsedUser.email;
</script>
</body>
</html>

6. Read JSON Data and Filter Results in HTML
<html>
<body>
<ul id="productList"></ul>
<script>
    var products = [
        { name: "Pen", price: 20, category: "Stationery" },
        { name: "Notebook", price: 60, category: "Stationery" },
        { name: "Mouse", price: 150, category: "Electronics" }
    ];
    var result = products.filter(p => p.price > 50);
    var html = result.map(p => "<li>" + p.name + " - " + p.price +
"</li>").join("");
    document.getElementById("productList").innerHTML = html;
</script>
</body>
</html>

7. Store JSON Data in Local Storage
<html>
<body>
<div id="profile"></div>
<script>
    var profile = { name: "Jane", age: 28, city: "London" };
    localStorage.setItem("userProfile", JSON.stringify(profile));
    var stored = JSON.parse(localStorage.getItem("userProfile"));
    document.getElementById("profile").innerHTML = stored.name + ", " +
stored.city;
</script>
</body>
</html>

8. Convert XML Data to JSON and Display in HTML
<html>
<body>
<div id="bookDetails"></div>
<script>
    var xml = "<book><title>JS Guide</title><author>Alex</author></book>";
    var parser = new DOMParser();
    var xmlDoc = parser.parseFromString(xml, "text/xml");
    var book = {
        title: xmlDoc.getElementsByTagName("title")[0].childNodes[0].nodeValue,
        author: xmlDoc.getElementsByTagName("author")[0].childNodes[0].nodeValue
    };
    document.getElementById("bookDetails").innerHTML = book.title + " by " +
book.author;
```

```
</script>
</body>
</html>

9. Multi-Dimensional JSON Array Example
<html>
<body>
<table border="1" id="timetable"></table>
<script>
    var timetable = {
        "Monday": ["Math", "Science"],
        "Tuesday": ["English", "History"]
    };
    var table = "<tr><th>Day</th><th>Subjects</th></tr>";
    for (var day in timetable) {
        table += "<tr><td>" + day + "</td><td>" + timetable[day].join(", ") +
"</td></tr>";
    }
    document.getElementById("timetable").innerHTML = table;
</script>
</body>
</html>

10. Send JSON Data to a Server Using Fetch API
<html>
<body>
<form id="contactForm">
    <input type="text" id="name" placeholder="Name">
    <input type="email" id="email" placeholder="Email">
    <textarea id="message"></textarea>
    <button type="submit">Send</button>
</form>
<script>
document.getElementById("contactForm").addEventListener("submit", function(e) {
    e.preventDefault();
    var data = {
        name: document.getElementById("name").value,
        email: document.getElementById("email").value,
        message: document.getElementById("message").value
    };
    fetch("https://jsonplaceholder.typicode.com/posts", {
        method: "POST",
        headers: { "Content-Type": "application/json" },
        body: JSON.stringify(data)
    }).then(response => response.json())
    .then(json => console.log(json));
});
</script>
</body>
</html>

11. Add and Remove JSON Data Dynamically
<html>
<body>
<ul id="todoList"></ul>
<input type="text" id="task"><button onclick="addTask()">Add</button>
<script>
    var tasks = [];
    function addTask() {
        var task = document.getElementById("task").value;
        if (task) {
            tasks.push(task);
            renderTasks();
        }
```

```
    }
    function renderTasks() {
        var html = "";
        tasks.forEach((t, i) => {
            html += "<li>" + t + " <button onclick='removeTask(" + i +
")'>Delete</button></li>";
        });
        document.getElementById("todoList").innerHTML = html;
    }
    function removeTask(index) {
        tasks.splice(index, 1);
        renderTasks();
    }
</script>
</body>
</html>
```

12. Validate JSON Using JavaScript

```
<html>
<body>
<textarea id="jsonInput" rows="4" cols="50"></textarea><br>
<button onclick="validateJSON()">Validate</button>
<p id="result"></p>
<script>
    function validateJSON() {
        var text = document.getElementById("jsonInput").value;
        try {
            JSON.parse(text);
            document.getElementById("result").innerHTML = "Valid JSON";
        } catch (e) {
            document.getElementById("result").innerHTML = "Invalid JSON: " +
e.message;
        }
    }
</script>
</body>
</html>
```