Practical – 6

AIM:

1) **Demonstrate Class, Properties, Methods and Objects**
2) **Demonstrate how to work with JSON File**
3) **Do Spoural Registration Form Validation (Error object and try…catch..)**

Source Code:

```html
<!DOCTYPE html>
<html lang="en">
  <head>
    <title>Class demonstration</title>
    <style>
      .heading {
        text-align: center;
        font-family: "Arial", sans-serif;
      }
      .student-card {
        width: 300px;

        background-color: #f2f2f2;
        border: 1px solid #ccc;
        box-shadow: 2px 2px 4px #ccc;
        margin: 20px auto;
        font-family: "Arial", sans-serif;
        text-align: center;
        cursor: pointer;
        transition: all 0.2s ease-in-out;
      }
      .student-card:hover {
        transform: scale(1.05);
        box-shadow: 4px 4px 8px #ccc;
      }
      .student-name {
        font-size: 24px;
        font-weight: bold;
        margin-bottom: 10px;
      }
      .student-id {
        font-size: 18px;
        font-style: bold;
        margin-bottom: 10px;
      }
```

```css
    .student-dob {
      font-size: 16px;
      margin-bottom: 10px;
    }
    .student-age {
      font-size: 18px;
      font-weight: bold;
      color: green;
    }
  </style>
</head>
<body>
  <h1 class="heading">Class demonstration</h1>
  <script src="index.js"></script>
</body>
</html>
```

```javascript
class Student {
    constructor(name, ID, dob) {
      this.name = name;
      this.ID = ID;
      this.dob = dob;
    }
    getDetails() {
      document.write(`<div class='student-card'>
          <div class='student-name'>
            ${this.name}
          </div>
        <div class='student-id'>
          ${this.ID}
        </div>
        <div class='student-dob'>
          ${this.dob}
        </div>
        <div class='student-age'>
          ${this.getAge()}
        </div>
      </div>`);
    }
    getAge() {
      let today = new Date();
      let birthDate = new Date(this.dob);
      let age = today.getFullYear() - birthDate.getFullYear();
      let m = today.getMonth() - birthDate.getMonth();
```

```
    if (m<0 || (m === 0 && today.getDate() < birthDate.getDate()))

    age--;
    return "The age of student is " + age;
  }
}
let p1 = new Student("Hiranj ", "21IT068", "03-03-2004");
let p2 = new Student("Henil", "21IT085", "19-07-2004");
p1.getDetails();
p2.getDetails();
```

Output:

Class demonstration

Hiranj
21IT068

03-03-2004

The age of student is 18

Henil
21IT085

19-07-2004

The age of student is NaN

Source Code:

```html
<!DOCTYPE html>
<html lang="en">
  <head>
    <title>JSON Demo</title>
    <style>
      body {
        background-color: #f2f2f2;
        font-family: "Arial", sans-serif;
        text-align: center;
      }
      h3, h5 {
        color: #333;
        font-size: 24px;
        margin: 20px 0;
  }
      i {
        color: #666;
        font-size: 18px;
        font-style: italic;
      }
      p {
        font-size: 18px;
        margin: 10px 0;
      }
      #demo {
        padding: 20px;
        margin: 20px auto;
        transition: all 0.2s ease-in-out;
      }
    </style>
  </head>
  <body>
    <h3>Demonstrating how to work with JSON</h3>
    <p><i>JSON stands for JavaScript Object Notation</i></p>
    <p><i>Curly braces hold objects, Square brackets hold arrays</i></p>
    <h5>Creating object from JSON string having array</h5>
    <p id="demo"></p>
    <h5>Javascript JSON Methods</h5>
    <p id="demo1"></p>
    <p id="demo2"></p>
    <script src="script.js"></script>
```

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

```javascript
let text =
  '{"employees":[' +
  '{"firstName":"Virat", "lastName":"Kohli"},' +
  '{"firstName":"Sachin", "lastName":"Tendulkar"},' +
  '{"firstName":"Rohit", "lastName":"Sharma"}]}';
const obj = JSON.parse(text);
document.getElementById("demo").innerHTML = `
  ${obj.employees[0].firstName} ${obj.employees[0].lastName}<br>
  ${obj.employees[1].firstName} ${obj.employees[1].lastName}<br>
  ${obj.employees[2].firstName} ${obj.employees[2].lastName}`;
let student1 = '{"name":"Virat", "age":32, "city":"Delhi"}';
const obj1 = JSON.parse(student1);
document.getElementById(
  "demo1"
).innerHTML = `Convert string in JSON format using parse()
method<br>${obj1.name}`;
let student2 = '{name:"Virat", age:32, city:"Delhi"}';
const obj2 = JSON.stringify(student2);
document.getElementById(
  "demo2"
).innerHTML += `<br>Convert JSON object to string using stringify()
method<br>${obj2}`;
```

Output:

Demonstrating how to work with JSON

JSON stands for JavaScript Object Notation
Curly braces hold objects, Square brackets hold arrays

Creating object from JSON string having array
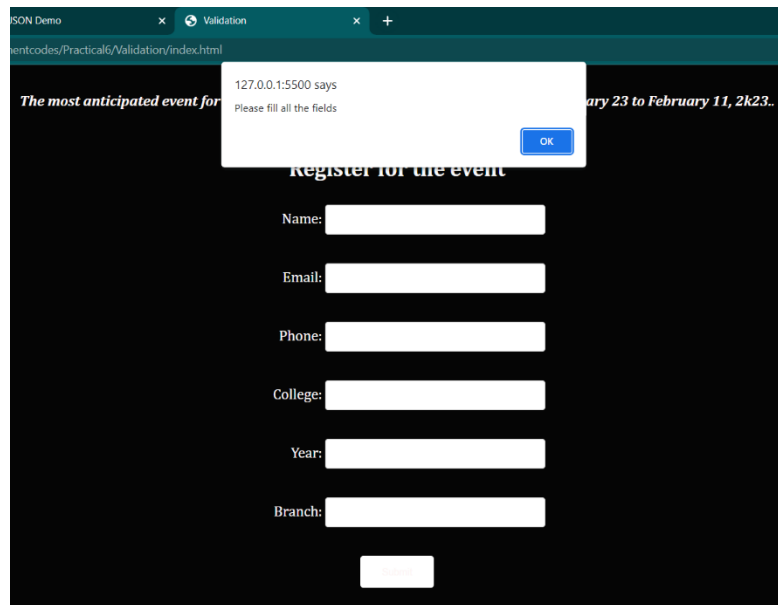
Virat Kohli
Sachin Tendulkar
Rohit Sharma

Javascript JSON Methods

Convert string in JSON format using parse() method
Virat

Convert JSON object to string using stringify() method
"{name:\"Virat\", age:32, city:\"Delhi\"}"

Source Code:

```
<script src="validate.js"></script>
function display(){
    try{
        var name = document.getElementById("name").value;
        var email = document.getElementById("email").value;
        var phone = document.getElementById("phone").value;
        var college = document.getElementById("college").value;
        var year = document.getElementById("year").value;
        var branch = document.getElementById("branch").value;
        if(name == "" || email == "" || phone == "" || college == "" || year ==
"" || branch == ""){
            throw "Please fill all the fields";
        }
        else if(!validateEmail(email)){
            throw "Please enter a valid email address";
        }
        else if(!validatePhone(phone)){
            throw "Please enter a valid phone number";
        }
        else{
            alert("Registration Successful");
        }
    }
    catch(err){
        alert(err);
    }
}
function validateEmail(email)
{
    var re = /\S+@\S+\.\S+/;
    return re.test(email);
}
function validatePhone(phone)
{
    var re = /^\(?(\d{3})\)?[- ]?(\d{3})[- ]?(\d{4})$/;
    return re.test(phone);
}
```

Output:

Conclusion: We can also define many methods along with using constructor in classes. JavaScript Object Notation (JSON) is a standard text-based format for representing structured data based on JavaScript object syntax.