Difference between JSON and XML

Aspect	JSON	XML
Definition	It is a file format that stores and transmits the data objects into human-readable text.	It is a markup language designed to store and distribute data across the web and various APIs.
Full-Form	JavaScript Object Notation	eXtensible Markup Language.
Language	Derived from javascript.	Derived from SGML.
Extension	.json	.xml
Data Types	Supports string, number, boolean, and arrays.	Data is in a string format.
Tags	No tags	Data is represented in tags.
Array	Use an array to represent the data.	Doesn't use arrays.
Comments	Don't support	Support
NameSpace	Don't support	Support
Orientation	Data Oriented	Document Oriented
Security	Less Secured	More secured than JSON

Difference between Authentication and Authorization

Aspect	Authentication	Authorization
Definition	The process of verifying the identity of a user.	The process of determining what a user is allowed to do.
Objective	To ensure that the user is who they claim to be.	To control access rights and permissions to resources.
Key Factors	Username, password, biometrics, security tokens.	User roles, permissions, access control lists (ACLs).
Verification	Verifies the identity of the user.	Determines if the user has permission to access resources.
Occurrence	Typically occurs at the beginning of a session.	Occurs after authentication, usually before accessing resources.
Example	Logging into an email account with a username and password.	Accessing a file on a server that requires specific permissions.

Create 3 XML and JSON files for department,year,student

Department.xml:

```xml
<departments>
  <department>
    <name>Computer Science</name>
  </department>
  <department>
    <name>Electrical Engineering</name>
  </department>
</departments>
```

Year.xml:

```xml
<years>
  <year>
    <number>1</number>
  </year>
  <year>
    <number>2</number>
  </year>
  <year>
    <number>3</number>
  </year>
  <year>
    <number>4</number>
  </year>
</years>
```

Student.xml:

```xml
<students>
  <student>
    <name>Varun</name>
  </student>
  <student>
    <name>Teja</name>
  </student>
  <student>
    <name>Sai</name>
  </student>
</students>
```

Department.json:

```json
{
 "departments": [
  { "name": "Computer Science" },
  { "name": "Electrical Engineering" }
 ]
}
```

Year.json:

```json
{
 "years": [
  { "number": 1 },
  { "number": 2 },
  { "number": 3 },
  { "number": 4 }
```

```
  ]
}
```

Student.json:

```json
{
  "students": [
    { "name": "Varun" },
    { "name": "Teja" },
    { "name": "Sai" }
  ]
}
```

Create a Login Screen using HTML

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Login</title>
    <style>
        body {
            font-family: Arial, sans-serif;
            background-color: #f4f4f4;
            margin: 0;
            padding: 0;
            display: flex;
            justify-content: center;
            align-items: center;
```

```css
    height: 100vh;
}

.login-container {
    background-color: #fff;

    padding: 20px;

    border-radius: 8px;

    box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
}

.login-container h2 {
    text-align: center;

    margin-bottom: 20px;
}

.login-container input[type="text"],

.login-container input[type="password"] {
    width: 100%;

    padding: 10px;

    margin-bottom: 15px;

    border: 1px solid #ccc;

    border-radius: 5px;

    box-sizing: border-box;
}

.login-container input[type="submit"] {
    width: 100%;

    padding: 10px;

    border: none;

    border-radius: 5px;

    background-color: #007bff;

    color: #fff;

    font-size: 16px;

    cursor: pointer;
}
```

```
    .login-container input[type="submit"]:hover {

        background-color: #0056b3;

    }

  </style>

</head>

<body>

  <div class="login-container">

    <h2>Login</h2>

    <form action="#" method="post">

      <input type="text" name="username" placeholder="Username" required>

      <input type="password" name="password" placeholder="Password" required>

      <input type="submit" value="Login">

    </form>

  </div>

</body>

</html>
```

OUTPUT

Create a HTML page with Video file

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Video Player</title>

</head>

<body>

<h2>My Video</h2>

<!-- Replace the src attribute with your YouTube video's embed URL -->

<iframe width="560" height="315" src="https://www.youtube.com/embed/xJvgC40JGsM?si=sXYYiRu7fFL7PXmO" title="YouTube video player" frameborder="0" allow="accelerometer; autoplay; clipboard-write; encrypted-media; gyroscope; picture-in-picture; web-share" referrerpolicy="strict-origin-when-cross-origin" allowfullscreen></iframe>

</body>

</html>

OUTPUT

Create a HTML page with Audio file

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Audio Example</title>
</head>
<body>
    <h1>My Audio</h1>
    <audio controls>
        <source src="audiofile.mp3" type="audio/mp3">
        Your browser does not support the audio element.
    </audio>
</body>
</html>
```

Create a HTML page to upload a file

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>File Upload</title>
</head>
<body>
    <h1>Upload a File</h1>
```

```
<form action="#" method="post" enctype="multipart/form-data">

    <input type="file" name="file" id="file">

    <input type="submit" value="Upload">

  </form>

</body>

</html>
```

OUTPUT

Upload a File

| Choose File | No file chosen   Upload |