DIFFERNECES BETWEEN JSON AND XML

FEATURES	JSON	XML
Data Types	Limited (strings, numbers, Booleans , arrays, objects, null)	No built-in types, but versatile with elements and attributes
Syntax	Lightweight, based on JavaScript objects	Tag-based markup language with angle brackets
Readability	Concise and easy to read/write	Can be verbose, especially for complex structures
Parsing	Faster and more efficient	Can be more complex and resource-intensive
Support for Arrays	Native support	Represented using repeating elements or conventions
Namespaces	No built-in support	Support for distinguishing elements/attributes based on URIs
Schema Validation	Less standardized support	Robust support with technologies like XSD
Usage	Commonly used in web APIs, data transmission	Used in various domains including web services, configuration, data interchange, and document markup

DIFFERENCES BETWEEN AUTHORIZATION AND AUTHENTIFICATION

Feature	**Authentication**	**Authorization**
Definition	Process of verifying the identity of a user.	Process of determining what a user is allowed to do.
Objective	To confirm that the user is who they claim to be.	To grant or deny access to resources based on the user's identity and permissions.
Focus	Identity verification	Access control
Example	Logging into a system with a username and password.	Accessing a file or database only if the user has specific permissions.
Methods	Credentials (passwords, biometrics, tokens)	Policies, rules, roles, or attributes
Outcome	Successful authentication grants access	Determines whether access is allowed
Key Players	User, Authentication Service	User, Authorization Service
Dependency	Typically precedes authorization	Depends on successful authentication
Goal	To establish trust between the user and the system	To ensure security by controlling access

CREATE 3XML AND JSON FILES FOR DEPARTMENT ,YEAR,STUDENT:-

1.DEPARTMENT

.xml

```
<Departments>
    <Department>
        <ID>101</ID>
        <Name>Computer Science</Name>
    </Department>
    <Department>
        <ID>102</ID>
        <Name>Electrical Engineering</Name>
    </Department>
</Departments>
```

.json

```
{
  "Departments": [
    {
      "ID": 101,
      "Name": "Computer Science"
    },
    {
      "ID": 102,
      "Name": "Electrical Engineering"
    }
  ]
}
```

2.year

.xml

```
<Years>
  <Year>
    <ID>1</ID>
    <Name>pooboni</Name>
  </Year>
  <Year>
    <ID>2</ID>
    <Name>krishna</Name>
  </Year>
  <Year>
    <ID>3</ID>
    <Name>valluri</Name>
  </Year>
  <Year>
    <ID>4</ID>
    <Name>srinivasarao</Name>
  </Year>
</Years>
```

.json

```
{
 "Years": [
  {
   "ID": 1,
   "Name": "pooboni"
  },
  {
   "ID": 2,
   "Name": "krishna"
  },
  {
      "ID": 3,
      "Name": "valluri"
    },
    {
      "ID": 4,
      "Name": "srinivasarao"
    }
  ]
}
```

3.student

.xml

```
<Students>
    <Student>
        <ID>1001</ID>
        <Name>John Doe</Name>
        <DepartmentID>101</DepartmentID>
        <YearID>2</YearID>
    </Student>
    <Student>
        <ID>1002</ID>
        <Name>Jane Smith</Name>
        <DepartmentID>102</DepartmentID>
        <YearID>3</YearID>
    </Student>

</Students>
```

.json

```
{
  "Students": [
    {
      "ID": 1001,
      "Name": "John Doe",
      "DepartmentID": 101,
      "YearID": 2
    },
    {
      "ID": 1002,
      "Name": "Jane Smith",
      "DepartmentID": 102,
      "YearID": 3
    }
  ]
}
```

CREATE A FILE WITH DEPARTMENT AS ROOT, YEAR AS SUBROOT AND STUDENT AS AN ELEMENT:-

.XML FILE

```
<Department>
  <Year>
    <Student>
      <ID>1001</ID>
      <Name>John Doe</Name>
      <DepartmentID>101</DepartmentID>
      <YearID>2</YearID>
    </Student>
    <Student>
      <ID>1002</ID>
      <Name>Jane Smith</Name>
      <DepartmentID>102</DepartmentID>
      <YearID>3</YearID>
    </Student>
  </Year>
</Department>
```

JSON FILE

```
{
 "Department": {
  "Year": {
   "Students": [
    {
     "ID": 1001,
     "Name": "John Doe",
     "DepartmentID": 101,
          "YearID": 2
        },
        {
          "ID": 1002,
          "Name": "Jane Smith",
          "DepartmentID": 102,
          "YearID": 3
        }
      ]
    }
  }
}
```