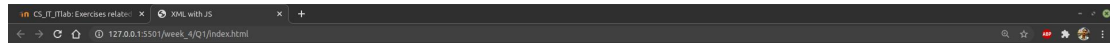


IT LAB II – Week 4

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Question 1



Reading XML with JavaScript

#	Author	Book Title	Price	Publish Date	Description
1	author 1	Book title 1	3000/-	10-01-2000	Long text for description of Book title 1.
2	author 2	Book title 2	583/-	16-12-2000	Long text for description of Book title 2.
3	author 3	Book title 3	95/-	17-11-2000	Long text for description of Book title 3.
4	author 4	Book title 4	595/-	10-03-2001	Long text for description of Book title 4.
5	author 5	Book title 5	599/-	10-09-2001	Long text for description of Book title 5.
6	author 6	Book title 6	455/-	02-09-2000	Long text for description of Book title 6.
7	author 7	Book title 7	495/-	02-11-2000	Long text for description of Book title 7.
8	author 8	Book title 8	499/-	06-12-2000	Long text for description of Book title 8.
9	author 9	Book title 9	695/-	02-11-2000	Long text for description of Book title 9.
10	author 10	Book title 10	365/-	09-12-2000	Long text for description of Book title 10.



Source Code

books.xml

```
<?xml version="1.0" encoding="utf-8" ?>
<catalog>
  <book id="b1">
    <author>author 1</author>
    <title>Book title 1</title>
    <price>3000</price>
    <publish_date>10-01-2000</publish_date>
    <description>
      Long text for description of Book title 1.
    </description>
  </book>
  <book id="b2">
    <author>author 2</author>
    <title>Book title 2</title>
    <price>583</price>
    <publish_date>16-12-2000</publish_date>
    <description>
      Long text for description of Book title 2.
    </description>
  </book>
</catalog>
```

```
</book>
<book id="b3">
  <author>author 3</author>
  <title>Book title 3</title>
  <price>95</price>
  <publish_date>17-11-2000</publish_date>
  <description>
    Long text for description of Book title 3.
  </description>
</book>
<book id="b4">
  <author>author 4</author>
  <title>Book title 4</title>
  <price>595</price>
  <publish_date>10-03-2001</publish_date>
  <description>
    Long text for description of Book title 4.
  </description>
</book>
<book id="b5">
  <author>author 5</author>
  <title>Book title 5</title>
  <price>599</price>
  <publish_date>10-09-2001</publish_date>
  <description>
    Long text for description of Book title 5.
  </description>
</book>
<book id="b6">
  <author>author 6</author>
  <title>Book title 6</title>
  <price>455</price>
  <publish_date>02-09-2000</publish_date>
  <description>
    Long text for description of Book title 6.
  </description>
</book>
<book id="b7">
  <author>author 7</author>
  <title>Book title 7</title>
  <price>495</price>
  <publish_date>02-11-2000</publish_date>
  <description>
    Long text for description of Book title 7.
  </description>
</book>
<book id="b8">
  <author>author 8</author>
  <title>Book title 8</title>
```

```

    <price>499</price>
    <publish_date>06-12-2000</publish_date>
    <description>
    Long text for description of Book title 8.
    </description>
</book>
<book id="b9">
    <author>author 9</author>
    <title>Book title 9</title>
    <price>695</price>
    <publish_date>02-11-2000</publish_date>
    <description>
    Long text for description of Book title 9.
    </description>
</book>
<book id="b10">
    <author>author 10</author>
    <title>Book title 10</title>
    <price>365</price>
    <publish_date>09-12-2000</publish_date>
    <description>
    Long text for description of Book title 10.
    </description>
</book>
</catalog>

```

index.html

```

<!doctype html>
<html lang="en">

<head>
    <!-- Required meta tags -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width,
initial-scale=1, shrink-to-fit=no">

    <!-- Bootstrap CSS -->
    <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/css/boot
strap.min.css"

integrity="sha384-Gn5384xqQ1aoWXA+058RXPxPg6fy4IWvTNh0E263XmFc
JlSAwiGgFAW/dAiS6JXm" crossorigin="anonymous">

    <title>XML with JS</title>
</head>

```

```

<body>
  <div class="container">
    <!-- Heading -->
    <div style="margin-top: 70px;">
      <h1 class="display-4" style="text-align: center;
padding: 20px;">Reading XML with JavaScript</h1>
    </div>

    <!-- Table to show XML data -->
    <table class="table" id="books">
      <thead class="thead-dark">
        <!-- Headin of the table -->
        <tr>
          <th scope="col">#</th>
          <th scope="col">Author</th>
          <th scope="col">Book Title</th>
          <th scope="col">Price</th>
          <th scope="col">Publish Date</th>
          <th scope="col">Description</th>
        </tr>
      </thead>
      <!-- Body -->
      <tbody></tbody>
    </table>
  </div>

  <!-- JavaScript code -->
  <script>
    // URL of the XML file.
    const URL = "books.xml";
    // Fetch the XML as text.
    fetch(URL).then(response => response.text()).then(data =>
{
    // Table from the HTML document.
    let table = document.getElementById('books');

    // Parsing XML file.
    let parser = new DOMParser();
    let xmlData = parser.parseFromString(data,
"text/xml");
    // Querying the XML with book.
    let books = xmlData.querySelectorAll('book');

    // Loop through all the book details.
    for (let i = 0; i < books.length; i++) {
      // each book details.
      let book = books[i];

```

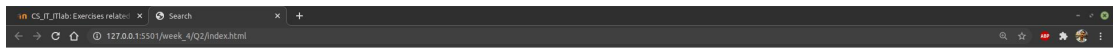
```
// Log
console.log(i + 1);
console.log(book.children[0].innerHTML);
console.log(book.children[1].innerHTML);
console.log(book.children[2].innerHTML);
console.log(book.children[3].innerHTML);
console.log(book.children[4].innerHTML);

// New table row.
let row = `|
  <th>${i + 1}</th>
  <td>${book.children[0].innerHTML}</td>
  <td>${book.children[1].innerHTML}</td>
  <td>${book.children[2].innerHTML}</td>
  <td>${book.children[3].innerHTML}</td>
  <td>${book.children[4].innerHTML}</td>
</tr>`;

// Append new row in table.
table.innerHTML += row;
}
})
</script>
</body>
</html>
|  |

```

Question 2

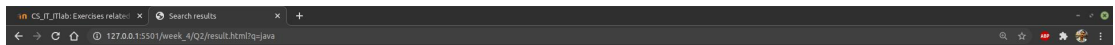


Search Engine

Search here

Search It

Try Something!

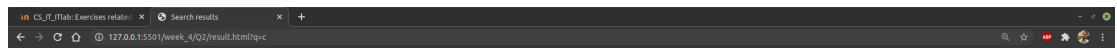


Search Engine

Result of : java

Java is a class-based, object-oriented programming language that is designed to have as few implementation dependencies as possible. [Wikipedia]





Search Engine

Result of : c

C is a general-purpose, procedural computer programming language supporting structured programming, lexical variable scope, and recursion, with a static type system. By design, C provides constructs that map efficiently to typical machine instructions. [Wikipedia]



Search Engine

Result of : hello world!

NOT FOUND!



Source Code

data.xml

```
<?xml version="1.0" encoding="utf-8" ?>
<data>
  <info id="k1">
    <key>test</key>
    <details>
      Test Successful. Search result retrieved from XML
    </details>
  </info>
  <info id="k2">
    <key>c</key>
    <details>
      C is a general-purpose, procedural computer programming
      language supporting structured programming, lexical variable scope,
      and recursion, with a static type system. By design, C provides
      constructs that map efficiently to typical machine instructions.
      [Wikipedia]
    </details>
  </info>
  <info id="k3">
    <key>java</key>
    <details>
      Java is a class-based, object-oriented programming language
      that is designed to have as few implementation dependencies as
      possible. [Wikipedia]
    </details>
  </info>
  <info id="k4">
    <key>js</key>
    <details>
      JavaScript, often abbreviated as JS, is a programming
      language that conforms to the ECMAScript specification. JavaScript
      is high-level, often just-in-time compiled, and multi-paradigm.
      It has curly-bracket syntax, dynamic typing, prototype-based
      object-orientation, and first-class functions.[Reference
      Wikipedia]
    </details>
  </info>
  <info id="k5">
    <key>python</key>
    <details>
      Python is an interpreted, object-oriented, high-level
      programming language with dynamic semantics. ... Python's simple,
      easy to learn syntax emphasizes readability and therefore reduces
```


the cost of program maintenance. Python supports modules and packages, which encourages program modularity and code reuse.[Reference python.org]

```
</details>
</info>
</data>
```

index.html

```
<!doctype html>
<html lang="en">

<head>
  <!-- Required meta tags -->
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width,
initial-scale=1">

  <!-- Bootstrap CSS -->
  <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.0-beta2/dist/
css/bootstrap.min.css" rel="stylesheet"

integrity="sha384-BmbxuPwQa2lc/FVzBcNJ7UAyJxM6wuqIj61tLrc4wSX0
szH/Ev+nYRRuWlolflfl" crossorigin="anonymous">

  <title>Search</title>

  <!-- Style -->
  <style>
    h1 {
      text-align: center;
    }

    #logo {
      font-size: 50px;
      padding-top: 200px;
      padding-bottom: 50px;
    }

    #search_bar {
      padding-top: 10px;
      padding-bottom: 10px;
      padding-right: 20px;
      padding-left: 25px;
      font-size: 25px;
      border-radius: 27px;
```

```

        box-shadow: 3px 3px 3px #a1a1a1;
    }

    #btn_set {
        margin-top: 45px;
        margin-bottom: 100px;
    }
</style>
</head>

<body>
    <div class="container">

        <!-- Logo: Search engine -->
        <div class="row justify-content-center">
            <div class="col-md-5">
                <h1 id="logo">Search Engine</h1>
            </div>
        </div>

        <!-- Input : Search bar -->
        <div class="row justify-content-center">
            <div class="col-md-8">
                <input class="form-control" type="text"
placeholder="Search here" id="search_bar">
            </div>
        </div>

        <!-- Search button -->
        <div class="row">
            <div class="d-flex justify-content-center"
id="btn_set">
                <div class="col-md-2 col-sm-12 col-xs-12">
                    <button type="button" class="btn btn-light
btn-lg" onclick="search()">Search It</button>
                </div>
                <div class="col-md-2 col-sm-12 col-xs-12">
                    <button type="button" class="btn btn-light
btn-lg">Try Something!</button>
                </div>
            </div>
        </div>

        <!-- JavaScript -->
        <script>
            // Function to redirect to result page.
            function search() {
                // Taking the search query.

```

```

        var searchKey =
document.getElementById('search_bar').value.trim().toLowerCase
();
        // If not empty then redirect to the result page.
        if ('' != searchKey)
            window.location.href = 'result.html?q=' +
searchKey;
    }
</script>
</body>
</html>

```

result.html

```

<!doctype html>
<html lang="en">

<head>
    <!-- Required meta tags -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width,
initial-scale=1, shrink-to-fit=no">

    <!-- Bootstrap CSS -->
    <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/css/boot
strap.min.css"

integrity="sha384-Gn5384xqQ1aoWXA+058RXPxPg6fy4IWvTNh0E263XmFc
JlSAwiGgFAW/dAiS6JXm" crossorigin="anonymous">

    <title>Search results</title>
</head>

<body>
    <div class="container" style="margin-top: 100px;">
        <!-- Button to go back to search page -->
        <div class="d-flex justify-content-center">
            <a href="index.html" class="btn btn-outline-primary
btn-lg">Search Engine</a>
        </div>
        <br><br>

        <!-- Search Result -->
        <div class="d-flex justify-content-center">
            <div class="card w-75">

```

```

        <div class="card-body">
            <!-- heading -->
            <h5 class="card-title" id="title"></h5>
            <br>
            <!-- content -->
            <p class="card-text" id="content"></p>
        </div>
    </div>
</div>

<!-- JavaScript -->
<script>
    // retrieve ta search query from URL.
    let params = new URLSearchParams(window.location.search);
    const searchKey = params.get('q');
    // Log
    console.log(searchKey);

    // URL of the XML file.
    const URL = "data.xml";
    // Fetch the XML as text.
    fetch(URL).then(response => response.text()).then(data =>
{
        let title = document.getElementById('title');
        let content = document.getElementById('content');

        // Parsing XML file.
        let parser = new DOMParser();
        let xmlData = parser.parseFromString(data,
"text/xml");
        // Querying the XML with info.
        let searchDataSets =
xmlData.querySelectorAll('info');

        var searchFlag = true;
        // Loop through all the details.
        for (let i = 0; i < searchDataSets.length; i++) {
            let searchData = searchDataSets[i];
            // Match
            if (searchData.children[0].innerHTML == searchKey)
{
                searchFlag = false;

console.log(searchData.children[0].innerHTML);

console.log(searchData.children[1].innerHTML);

                // Show the details.

```

```
        title.innerHTML = 'Result of : ' +
searchData.children[0].innerHTML;
        content.innerHTML =
searchData.children[1].innerHTML;
    }
}

// Not found in XML.
if (searchFlag) {
    console.log('NOT FOUND!');
    title.innerHTML = 'Result of : ' + searchKey;
    content.innerHTML = 'NOT FOUND!';
}
})
</script>
</body>
</html>
```
