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Week-7 : **Design simple application for accessing the data using XML.**

Description:

XML stands for **Extensible Markup Language**. It is a text-based markup language derived from Standard Generalized Markup Language (SGML).

XML tags identify the data and are used to store and organize the data, rather than specifying how to display it like HTML tags, which are used to display the data. XML is not going to replace HTML in the near future, but it introduces new possibilities by adopting many successful features of HTML.

There are three important characteristics of XML that make it useful in a variety of systems and solutions –

XML is extensible – XML allows you to create your own self-descriptive tags, or language, that suits your application.

XML carries the data, does not present it – XML allows you to store the data irrespective of how it will be presented.

XML is a public standard – XML was developed by an organization called the World Wide Web Consortium (W3C) and is available as an open standard.

Code:

XML:Inner Data Type Defination

```
1.  <?xml version="1.0"?>
2.  -<CATALOG>
3.  -<CD>
4.  <TITLE>Empire Burlesque</TITLE>
5.  <ARTIST>Bob Dylan</ARTIST>
6.  <COUNTRY>USA</COUNTRY>
7.  <COMPANY>Columbia</COMPANY>
8.  <PRICE>10.90</PRICE>
9.  <YEAR>1985</YEAR>
10. </CD>
11. -<CD>
12. <TITLE>Hide your heart</TITLE>
13. <ARTIST>Bonnie Tyler</ARTIST>
14. <COUNTRY>UK</COUNTRY>
15. <COMPANY>CBS Records</COMPANY>
16. <PRICE>9.90</PRICE>
17. <YEAR>1988</YEAR>
18. </CD>
19. -<CD>
20. <TITLE>Greatest Hits</TITLE>
21. <ARTIST>Dolly Parton</ARTIST>
22. <COUNTRY>USA</COUNTRY>
23. <COMPANY>RCA</COMPANY>
24. <PRICE>9.90</PRICE>
25. <YEAR>1982</YEAR>
26. </CD>
27. -<CD>
28. <TITLE>Still got the blues</TITLE>
29. <ARTIST>Gary Moore</ARTIST>
30. <COUNTRY>UK</COUNTRY>
31. <COMPANY>Virgin records</COMPANY>
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32. <PRICE>10.20</PRICE>
33. <YEAR>1990</YEAR>
34. </CD>
35. -<CD>
36. <TITLE>Eros</TITLE>
37. <ARTIST>Eros Ramazzotti</ARTIST>
38. <COUNTRY>EU</COUNTRY>
39. <COMPANY>BMG</COMPANY>
40. <PRICE>9.90</PRICE>
41. <YEAR>1997</YEAR>
42. </CD>
43. -<CD>
44. <TITLE>One night only</TITLE>
45. <ARTIST>Bee Gees</ARTIST>
46. <COUNTRY>UK</COUNTRY>
47. <COMPANY>Polydor</COMPANY>
48. <PRICE>10.90</PRICE>
49. <YEAR>1998</YEAR>
50. </CD>
51. -<CD>
52. <TITLE>Sylvias Mother</TITLE>
53. <ARTIST>Dr.Hook</ARTIST>
54. <COUNTRY>UK</COUNTRY>
55. <COMPANY>CBS</COMPANY>
56. <PRICE>8.10</PRICE>
57. <YEAR>1973</YEAR>
58. </CD>
59. -<CD>
60. <TITLE>Maggie May</TITLE>
61. <ARTIST>Rod Stewart</ARTIST>
62. <COUNTRY>UK</COUNTRY>
63. <COMPANY>Pickwick</COMPANY>
64. <PRICE>8.50</PRICE>
65. <YEAR>1990</YEAR>
66. </CD>
67. -<CD>
68. <TITLE>Romanza</TITLE>
69. <ARTIST>Andrea Bocelli</ARTIST>
70. <COUNTRY>EU</COUNTRY>
71. <COMPANY>Polydor</COMPANY>
72. <PRICE>10.80</PRICE>
73. <YEAR>1996</YEAR>
74. </CD>
75. -<CD>
76. <TITLE>When a man loves a woman</TITLE>
77. <ARTIST>Percy Sledge</ARTIST>
78. <COUNTRY>USA</COUNTRY>
79. <COMPANY>Atlantic</COMPANY>
80. <PRICE>8.70</PRICE>
81. <YEAR>1987</YEAR>
82. </CD>
83. -<CD>

84. <TITLE>Black angel</TITLE>
85. <ARTIST>Savage Rose</ARTIST>
86. <COUNTRY>EU</COUNTRY>
87. <COMPANY>Mega</COMPANY>
88. <PRICE>10.90</PRICE>
89. <YEAR>1995</YEAR>
90. </CD>
91. -<CD>
92. <TITLE>1999 Grammy Nominees</TITLE>
93. <ARTIST>Many</ARTIST>
94. <COUNTRY>USA</COUNTRY>
95. <COMPANY>Grammy</COMPANY>
96. <PRICE>10.20</PRICE>
97. <YEAR>1999</YEAR>
98. </CD>
99. -<CD>
100. <TITLE>For the good times</TITLE>
101. <ARTIST>Kenny Rogers</ARTIST>
102. <COUNTRY>UK</COUNTRY>
103. <COMPANY>Mucik Master</COMPANY>
104. <PRICE>8.70</PRICE>
105. <YEAR>1995</YEAR>
106. </CD>
107. -<CD>
108. <TITLE>Big Willie style</TITLE>
109. <ARTIST>Will Smith</ARTIST>
110. <COUNTRY>USA</COUNTRY>
111. <COMPANY>Columbia</COMPANY>
112. <PRICE>9.90</PRICE>
113. <YEAR>1997</YEAR>
114. </CD>
115. -<CD>
116. <TITLE>Tupelo Honey</TITLE>
117. <ARTIST>Van Morrison</ARTIST>
118. <COUNTRY>UK</COUNTRY>
119. <COMPANY>Polydor</COMPANY>
120. <PRICE>8.20</PRICE>
121. <YEAR>1971</YEAR>
122. </CD>
123. -<CD>
124. <TITLE>Soulsville</TITLE>
125. <ARTIST>Jorn Hoel</ARTIST>
126. <COUNTRY>Norway</COUNTRY>
127. <COMPANY>WEA</COMPANY>
128. <PRICE>7.90</PRICE>
129. <YEAR>1996</YEAR>
130. </CD>
131. -<CD>
132. <TITLE>The very best of</TITLE>
133. <ARTIST>Cat Stevens</ARTIST>
134. <COUNTRY>UK</COUNTRY>
135. <COMPANY>Island</COMPANY>

136. <PRICE>8.90</PRICE>
137. <YEAR>1990</YEAR>
138. </CD>
139. -<CD>
140. <TITLE>Stop</TITLE>
141. <ARTIST>Sam Brown</ARTIST>
142. <COUNTRY>UK</COUNTRY>
143. <COMPANY>A and M</COMPANY>
144. <PRICE>8.90</PRICE>
145. <YEAR>1988</YEAR>
146. </CD>
147. -<CD>
148. <TITLE>Bridge of Spies</TITLE>
149. <ARTIST>T'Pau</ARTIST>
150. <COUNTRY>UK</COUNTRY>
151. <COMPANY>Siren</COMPANY>
152. <PRICE>7.90</PRICE>
153. <YEAR>1987</YEAR>
154. </CD>
155. -<CD>
156. <TITLE>Private Dancer</TITLE>
157. <ARTIST>Tina Turner</ARTIST>
158. <COUNTRY>UK</COUNTRY>
159. <COMPANY>Capitol</COMPANY>
160. <PRICE>8.90</PRICE>
161. <YEAR>1983</YEAR>
162. </CD>
163. -<CD>
164. <TITLE>Midt om natten</TITLE>
165. <ARTIST>Kim Larsen</ARTIST>
166. <COUNTRY>EU</COUNTRY>
167. <COMPANY>Medley</COMPANY>
168. <PRICE>7.80</PRICE>
169. <YEAR>1983</YEAR>
170. </CD>
171. -<CD>
172. <TITLE>Pavarotti Gala Concert</TITLE>
173. <ARTIST>Luciano Pavarotti</ARTIST>
174. <COUNTRY>UK</COUNTRY>
175. <COMPANY>DECCA</COMPANY>
176. <PRICE>9.90</PRICE>
177. <YEAR>1991</YEAR>
178. </CD>
179. -<CD>
180. <TITLE>The dock of the bay</TITLE>
181. <ARTIST>Otis Redding</ARTIST>
182. <COUNTRY>USA</COUNTRY>
183. <COMPANY>Stax Records</COMPANY>
184. <PRICE>7.90</PRICE>
185. <YEAR>1968</YEAR>
186. </CD>
187. -<CD>

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188. <TITLE>Picture book</TITLE>
189. <ARTIST>Simply Red</ARTIST>
190. <COUNTRY>EU</COUNTRY>
191. <COMPANY>Elektra</COMPANY>
192. <PRICE>7.20</PRICE>
193. <YEAR>1985</YEAR>
194. </CD>
195. -<CD>
196. <TITLE>Red</TITLE>
197. <ARTIST>The Communards</ARTIST>
198. <COUNTRY>UK</COUNTRY>
199. <COMPANY>London</COMPANY>
200. <PRICE>7.80</PRICE>
201. <YEAR>1987</YEAR>
202. </CD>
203. -<CD>
204. <TITLE>Unchain my heart</TITLE>
205. <ARTIST>Joe Cocker</ARTIST>
206. <COUNTRY>USA</COUNTRY>
207. <COMPANY>EMI</COMPANY>
208. <PRICE>8.20</PRICE>
209. <YEAR>1987</YEAR>
210. </CD>
211. </CATALOG>

```

```

1. <!DOCTYPE html>
2. <html>
3. <style>
4. table,th,td {
5.     border : 1px solid black;
6.     border-collapse: collapse;
7. }
8. th,td {
9.     padding: 5px;
10. }
11. </style>
12. <body>
13.
14. <p>Click on a CD to display album information.</p>
15. <p id='showCD'></p>
16. <table id="demo"></table>
17.
18. <script>
19. var x,xmlhttp,xmlDoc
20. xmlhttp = new XMLHttpRequest();
21. xmlhttp.open("GET", "cd_catalog.xml", false);
22. xmlhttp.send();
23. xmlDoc = xmlhttp.responseXML;
24. x = xmlDoc.getElementsByTagName("CD");
25. table="<tr><th>Artist</th><th>Title</th></tr>";
26. for (i = 0; i <x.length; i++) {
27.     table += "<tr onClick='displayCD(" + i + ")'><td>";
28.     table += x[i].getElementsByTagName("ARTIST")[0].childNodes[0].nodeValue;

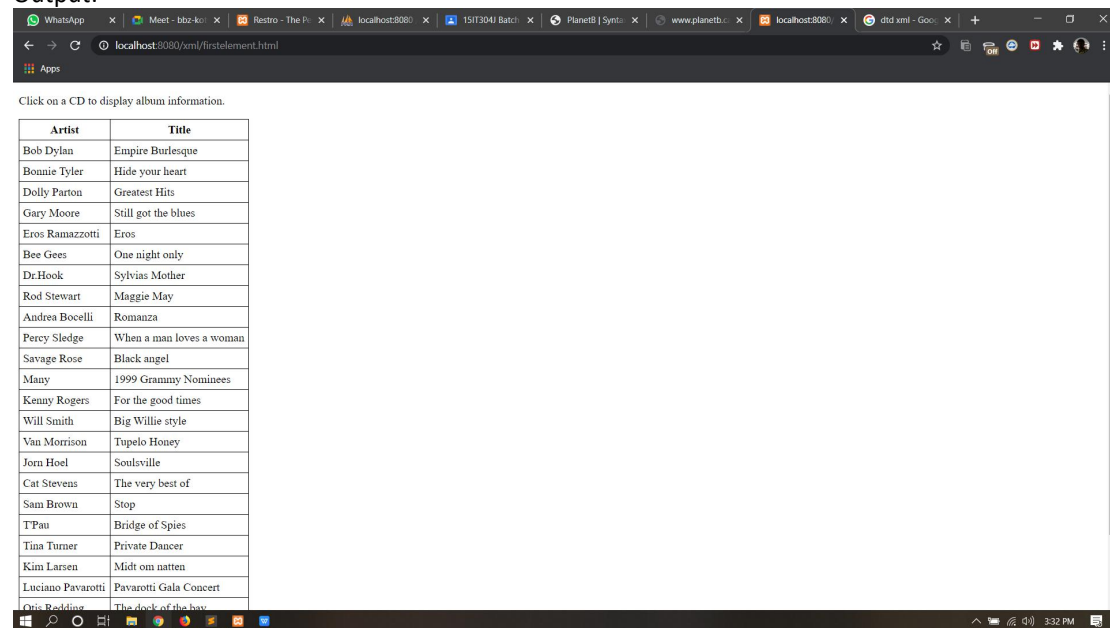
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29.     table += "</td><td>";
30.     table += x[i].getElementsByTagName("TITLE")[0].childNodes[0].nodeValue;
31.     table += "</td></tr>";
32. }
33. document.getElementById("demo").innerHTML = table;
34.
35. function displayCD(i) {
36.     document.getElementById("showCD").innerHTML =
37.         "Artist: " +
38.         x[i].getElementsByTagName("ARTIST")[0].childNodes[0].nodeValue +
39.         "<br>Title: " +
40.         x[i].getElementsByTagName("TITLE")[0].childNodes[0].nodeValue +
41.         "<br>Year: " +
42.         x[i].getElementsByTagName("YEAR")[0].childNodes[0].nodeValue;
43. }
44. </script>
45. </body>
46. </html>

```

Output:



The screenshot shows a web browser window with multiple tabs. The active tab is displaying a web page at `localhost:8080/xml/firstelement.html`. The page content includes the instruction "Click on a CD to display album information." followed by a table of CD data.

Artist	Title
Bob Dylan	Empire Burlesque
Bonnie Tyler	Hide your heart
Dolly Partou	Greatest Hits
Gary Moore	Still got the blues
Eros Ramazzotti	Eros
Bee Gees	One night only
Dr.Hook	Sylvias Mother
Rod Stewart	Maggie May
Andrea Bocelli	Romanza
Percy Sledge	When a man loves a woman
Savage Rose	Black angel
Many	1999 Grammy Nominees
Kenny Rogers	For the good times
Will Smith	Big Willie style
Van Morrison	Tupelo Honey
Jorn Hoel	Soulsville
Cat Stevens	The very best of
Sam Brown	Stop
TPau	Bridge of Spies
Tina Turner	Private Dancer
Kim Larsen	Midt om natten
Luciano Pavarotti	Pavarotti Gala Concert
Otis Redding	The dock of the bay

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Apps

Click on a CD to display album information.

Artist: Eros Ramazzotti
Title: Eros
Year: 1997

Artist	Title
Bob Dylan	Empire Burlesque
Bonnie Tyler	Hide your heart
Dolly Parton	Greatest Hits
Gary Moore	Still got the blues
Eros Ramazzotti	Eros
Bee Gees	One night only
Dr.Hook	Sylvias Mother
Rod Stewart	Maggie May
Andrea Bocelli	Romanza
Percy Sledge	When a man loves a woman
Savage Rose	Black angel
Maury	1999 Grammy Nominees
Kenny Rogers	For the good times
Will Smith	Big Willie style
Van Morrison	Tupelo Honey
Jorn Hoel	Soulsville
Cat Stevens	The very best of
Sam Brown	Stop
TPau	Bridge of Spies
Tina Turner	Private Dancer

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