

CSC343 Worksheet 10 Solution

June 29, 2020

1. a) /Products/Maker/PC/RAM

Notes:

- XPATH and Selecting Nodes
 - nodename
 - * Selects all nodes with the name "nodename"
 - /
 - * Selects from the root node
 - //
 - * Selects node in the document from the current node that match the selection no matter where they are
 - .
 - * Select the current node
 - ..
 - * Selects the parent of the current node
 - @
 - * Selects attributes

Example:

```
1 /StarMovieData/Star//City
2
```

- selects all City element in

```
<StarMovieData>
  <Star>
    Here :)
  </Star>
</StarMovieData>
```

- Wildcards *

- Is used to say 'any tag'

Example:

```
1 /StarMovieData/*/@*
2
```

- '@*' means any attributes
- '*' means any tag

• Context of Expressions

- [...] means that exists or there exists
- [*integer*] selects ith child of its parent
- [*Tag*] selects elements that have one or more sublements with 'Tag'
- [*Attribute*] selects elements that have attribute 'Attribute'

Example:

```
1 /StarMovieData/Star[//City = "Malibu"]/Name
2
```

- * Means select all Star Name that contains City with value 'Malibu'

Example:

```
1 /Movies/Movie/Version[1]/@year
2
```

- * Returns value of 'year' attribute of first 'Version' tag in 'Movie'
- * e.g. 1933 and 1984

```

1) <? xml version="1.0" encoding="utf-8" standalone="yes" ?>
2) <Movies>
3)   <Movie title = "King Kong">
4)     <Version year = "1933">
5)       <Star>Fay Wray</Star>
6)     </Version>
7)     <Version year = "1976">
8)       <Star>Jeff Bridges</Star>
9)       <Star>Jessica Lange</Star>
10)    </Version>
11)    <Version year = "2005" />
12)  </Movie>
13)  <Movie title = "Footloose">
14)    <Version year = "1984">
15)      <Star>Kevin Bacon</Star>
16)      <Star>John Lithgow</Star>
17)      <Star>Sarah Jessica Parker</Star>
18)    </Version>
19)  </Movie>
20) </Movies>

```

Result of
/Movies/Movie/Version[1]/@year

Example 2:

```

1  /Movies/Movie/Version
2

```

- * Returns all 'Version' tag in 'Movie'
- * e.g. lines 4 through 6, 7 through 10, line 11, lines 14 through 18

```

1)  <? xml version="1.0" encoding="utf-8" standalone="yes" ?>
2)  <Movies>
3)    <Movie title = "King Kong">
4)      <Version year = "1933">
5)        <Star>Fay Wray</Star>
6)      </Version>
7)      <Version year = "1976">
8)        <Star>Jeff Bridges</Star>
9)        <Star>Jessica Lange</Star>
10)     </Version>
11)     <Version year = "2005" />
12)  </Movie>
13)  <Movie title = "Footloose">
14)    <Version year = "1984">
15)      <Star>Kevin Bacon</Star>
16)      <Star>John Lithgow</Star>
17)      <Star>Sarah Jessica Parker</Star>
18)    </Version>
19)  </Movie>
20) </Movies>

```

Result of
/Movies/Movie/Version

Example 3:

```

1  /Movies/Movie/Version[Star]
2

```

- * Selects all 'Version' tag with one or more 'Star' tag inside
- * e.g. lines 4 through 6, 7 through 10, 14 through 18

```

1) <? xml version="1.0" encoding="utf-8" standalone="yes" ?>
2) <Movies>
3)   <Movie title = "King Kong">
4)     <Version year = "1933">
5)       <Star>Fay Wray</Star>
6)     </Version>
7)     <Version year = "1976">
8)       <Star>Jeff Bridges</Star>
9)       <Star>Jessica Lange</Star>
10)    </Version>
11)    <Version year = "2005" />
12)  </Movie>
13)  <Movie title = "Footloose">
14)    <Version year = "1984">
15)      <Star>Kevin Bacon</Star>
16)      <Star>John Lithgow</Star>
17)      <Star>Sarah Jessica Parker</Star>
18)    </Version>
19)  </Movie>
20) </Movies>

```

Result of `/Movies/Movie/Version[Star]`

- b) `/Products/Maker/*/@price`
- c) `/Products/Maker/Printer`
- d) `/Products/Maker[/Printer/Type/text() = 'ink-jet']`

Correct Solution:

`/Products/Maker[Printer/Type/text() = 'ink-jet']`

- e) `/Products/Maker[/PC | /Laptops]`

Notes:

- XPATH and OR
 - **Syntax:** $(xpath\ expression\ 1) \mid (xpath\ expression\ 2)$ ^[1]

References:

- 1) Stack Overflow, XPath OR operator for different nodes, link
- f) `/Products/Maker/*[HardDisk/text() > 200]/@model`
- 2. a) `/Ships/Class/Ship/@name`
- b) `/Ships/Class[@displacement > 35000]`
- c) `/Ships/Class/Ship[@launched < 1917]`
- d) `/Ships/Class/Ship[Battle/@outcome = 'sunk']/@name`
- e) `/Ships[Class/@name = Class/Ship/@name]/Class/Ship/@launched`
- f) `/Ships/Class/Ship[Battle]/@name`