

Exercise 1:

a. All titles of the document:

The image shows two screenshots from a Visual Studio Code editor. The top screenshot displays the 'OUTPUT' panel with the XPath query `//title` and its results. The bottom screenshot shows the 'OUTPUT' panel with the XPath query `//bookShop/*/title/text()` and its results.

Top Screenshot: XPath Query: `//title`

```
[Line 4] title: Everyday Italian
[Line 10] title: Harry Potter
[Line 16] title: XQuery Kick Start
[Line 24] title: XML The foundation of XQuery
[Line 28] title: Understanding the XPath specification
[Line 36] title: Learning XML
[Line 39] title: Introduction
[Line 43] title: Markup and Core Concepts
```

Bottom Screenshot: XPath Query: `//bookShop/*/title/text()`

```
[Line 4] null: Everyday Italian
[Line 10] null: Harry Potter
[Line 16] null: XQuery Kick Start
[Line 36] null: Learning XML
```

b. All titles of a book of the document:

```
36 <title language="en">Learning XML</title>
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

XPath Query: `//book/title`

[Line 4] title: Everyday Italian
[Line 10] title: Harry Potter
[Line 16] title: XQuery Kick Start
[Line 36] title: Learning XML

▼ OUTPUT XPath Results

XPath Query: `//book/title[@language='en']/text()`

[Line 4] null: Everyday Italian
[Line 10] null: Harry Potter
[Line 16] null: XQuery Kick Start
[Line 36] null: Learning XML

c. All elements of a chapter:

```
<npages>14</npages>
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

XPath Query: `//chapter/*`

[Line 24] title: XML The foundation of XQuery
[Line 25] npages: 14
[Line 28] title: Understanding the XPath specification
[Line 29] npages: 15
[Line 39] title: Introduction
[Line 40] npages: 24
[Line 43] title: Markup and Core Concepts
[Line 44] npages: 34

1.62 KiB Cloud Code - Sign in extension-output-Datash

```
✓ OUTPUT XPath Results
XPath Query: //chapter//*

[Line 24] title: XML The foundation of XQuery
[Line 25] npages: 14
[Line 28] title: Understanding the XPath specification
[Line 29] npages: 15
[Line 39] title: Introduction
[Line 40] npages: 24
[Line 43] title: Markup and Core Concepts
[Line 44] npages: 34
```

```
OUTPUT DEBUG CONSOLE PORTS
> OUTPUT XPath Results
XPath Query: //chapter/node()

[Line 23] null:

[Line 24] title: XML The foundation of XQuery
[Line 24] null:

[Line 25] npages: 14
[Line 25] null:

[Line 27] null:

[Line 28] title: Understanding the XPath specification
[Line 28] null:

[Line 29] npages: 15
[Line 29] null:
```

d. All elements of a chapter in a section:

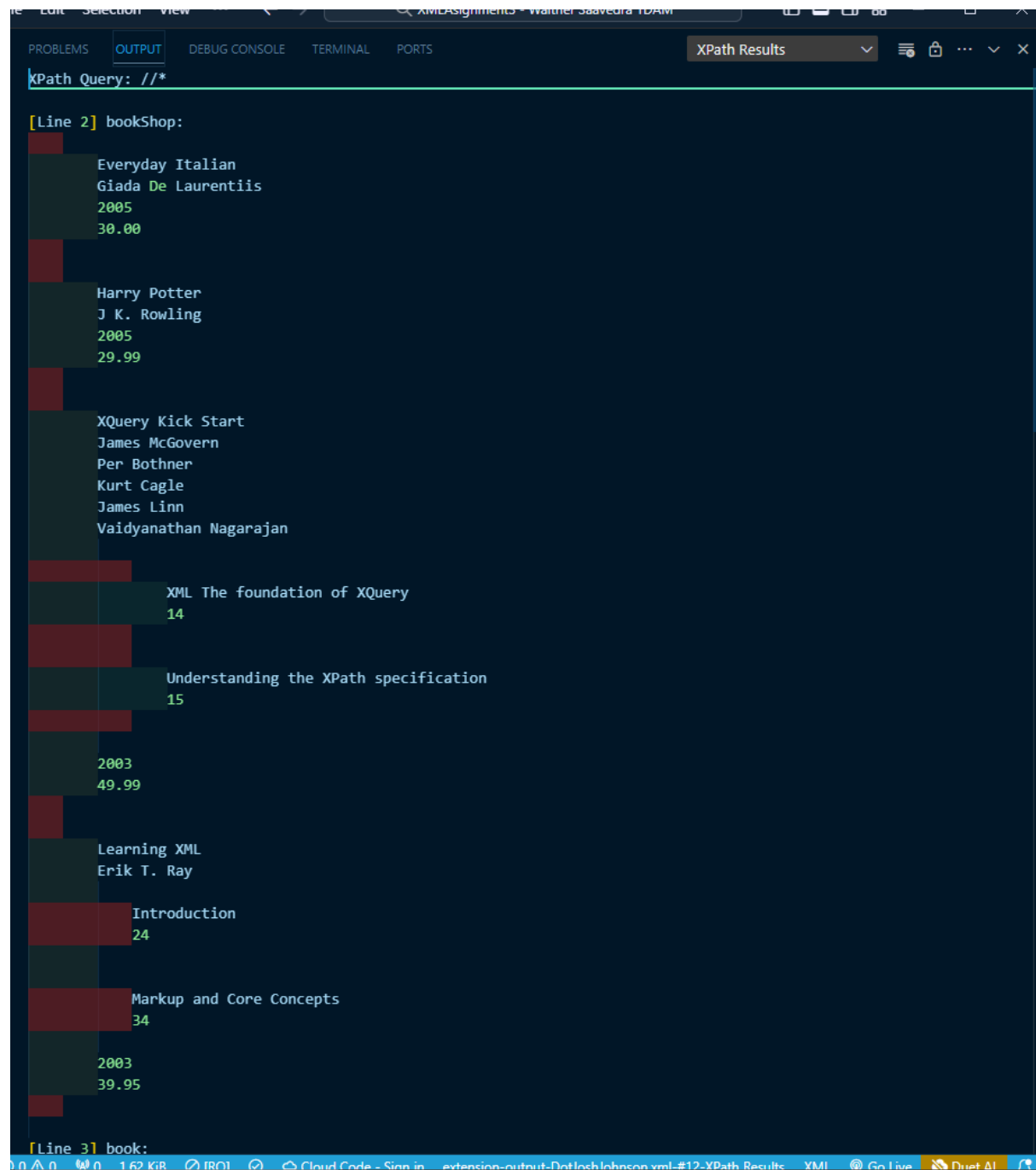
```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
XPath Query: //section/chapter/*

[Line 24] title: XML The foundation of XQuery
[Line 25] npages: 14
[Line 28] title: Understanding the XPath specification
[Line 29] npages: 15
```

```
OUTPUT DEBUG CONSOLE PORTS
> OUTPUT XPath Results
XPath Query: //section/chapter/descendant::*

[Line 24] title: XML The foundation of XQuery
[Line 25] npages: 14
[Line 28] title: Understanding the XPath specification
[Line 29] npages: 15
```

e. All elements:



```
XPath Query: /***

[Line 2] bookShop:
  Everyday Italian
  Giada De Laurentiis
  2005
  30.00

  Harry Potter
  J K. Rowling
  2005
  29.99

  XQuery Kick Start
  James McGovern
  Per Bothner
  Kurt Cagle
  James Linn
  Vaidyanathan Nagarajan

  XML The foundation of XQuery
  14

  Understanding the XPath specification
  15

  2003
  49.99

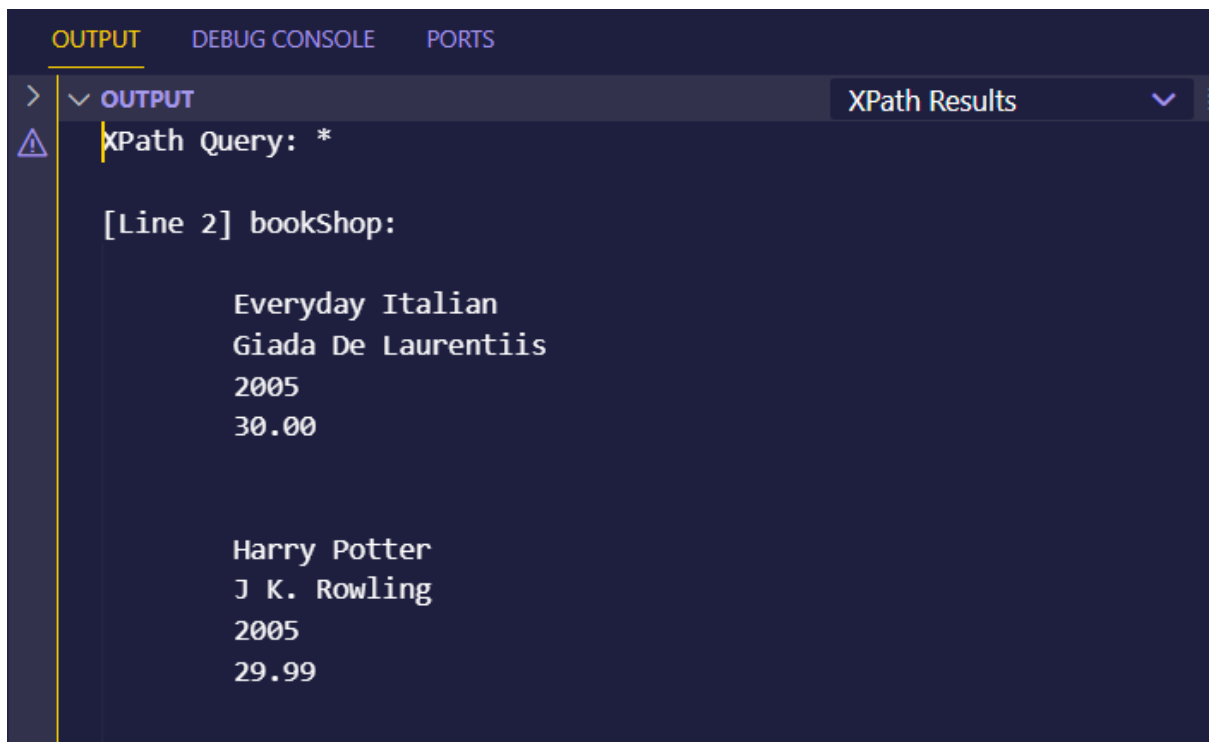
  Learning XML
  Erik T. Ray

  Introduction
  24

  Markup and Core Concepts
  34

  2003
  39.95

[Line 3] book:
```



The screenshot shows an IDE's OUTPUT window with the 'OUTPUT' tab selected. The XPath query is set to '*'. The results are displayed in a structured format, showing two book entries under the 'bookShop:' prefix. The first entry is 'Everyday Italian' by Giada De Laurentiis, published in 2005, priced at 30.00. The second entry is 'Harry Potter' by J K. Rowling, published in 2005, priced at 29.99.

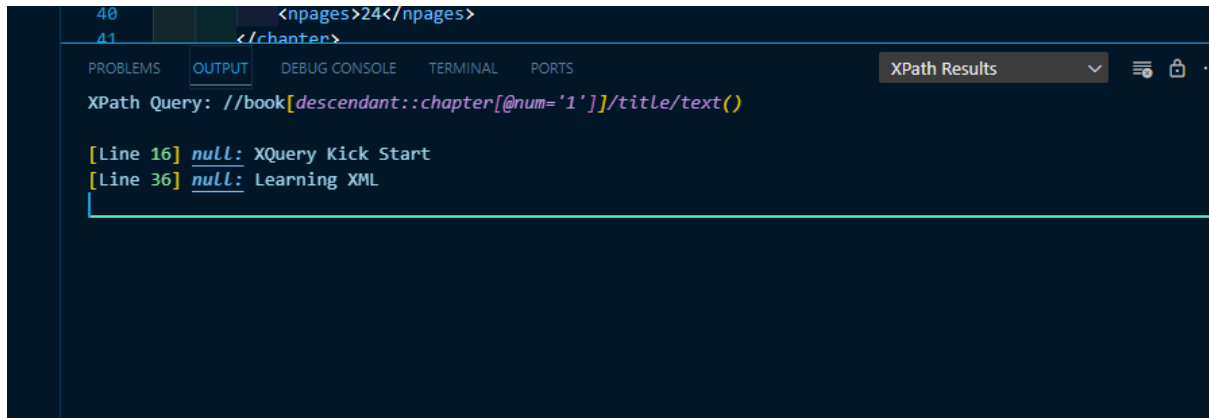
```
OUTPUT
XPath Query: *

[Line 2] bookShop:

    Everyday Italian
    Giada De Laurentiis
    2005
    30.00

    Harry Potter
    J K. Rowling
    2005
    29.99
```

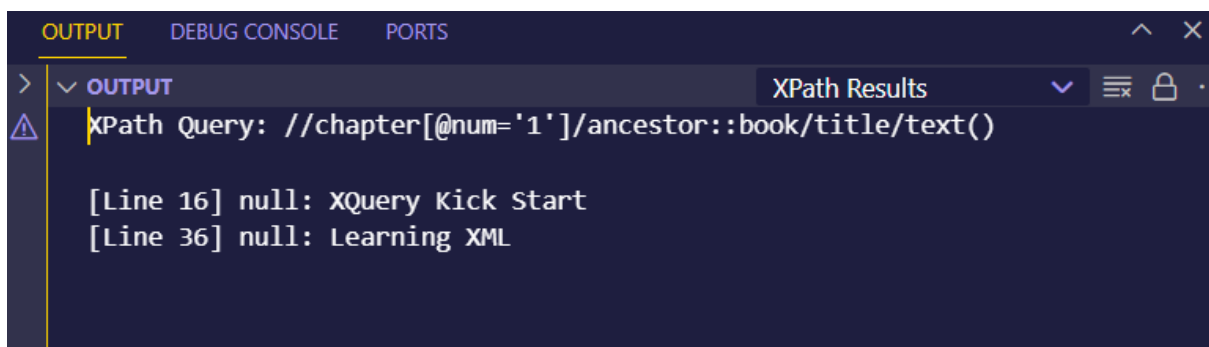
f. Titles that have a chapter 1:



The screenshot shows an IDE's OUTPUT window with the 'OUTPUT' tab selected. The XPath query is set to '//book[descendant::chapter[@num='1']]/title/text()'. The results show two titles: 'XQuery Kick Start' (Line 16) and 'Learning XML' (Line 36).

```
OUTPUT
XPath Query: //book[descendant::chapter[@num='1']]/title/text()

[Line 16] null: XQuery Kick Start
[Line 36] null: Learning XML
```



The screenshot shows an IDE's OUTPUT window with the 'OUTPUT' tab selected. The XPath query is set to '//chapter[@num='1']/ancestor::book/title/text()'. The results show two titles: 'XQuery Kick Start' (Line 16) and 'Learning XML' (Line 36).

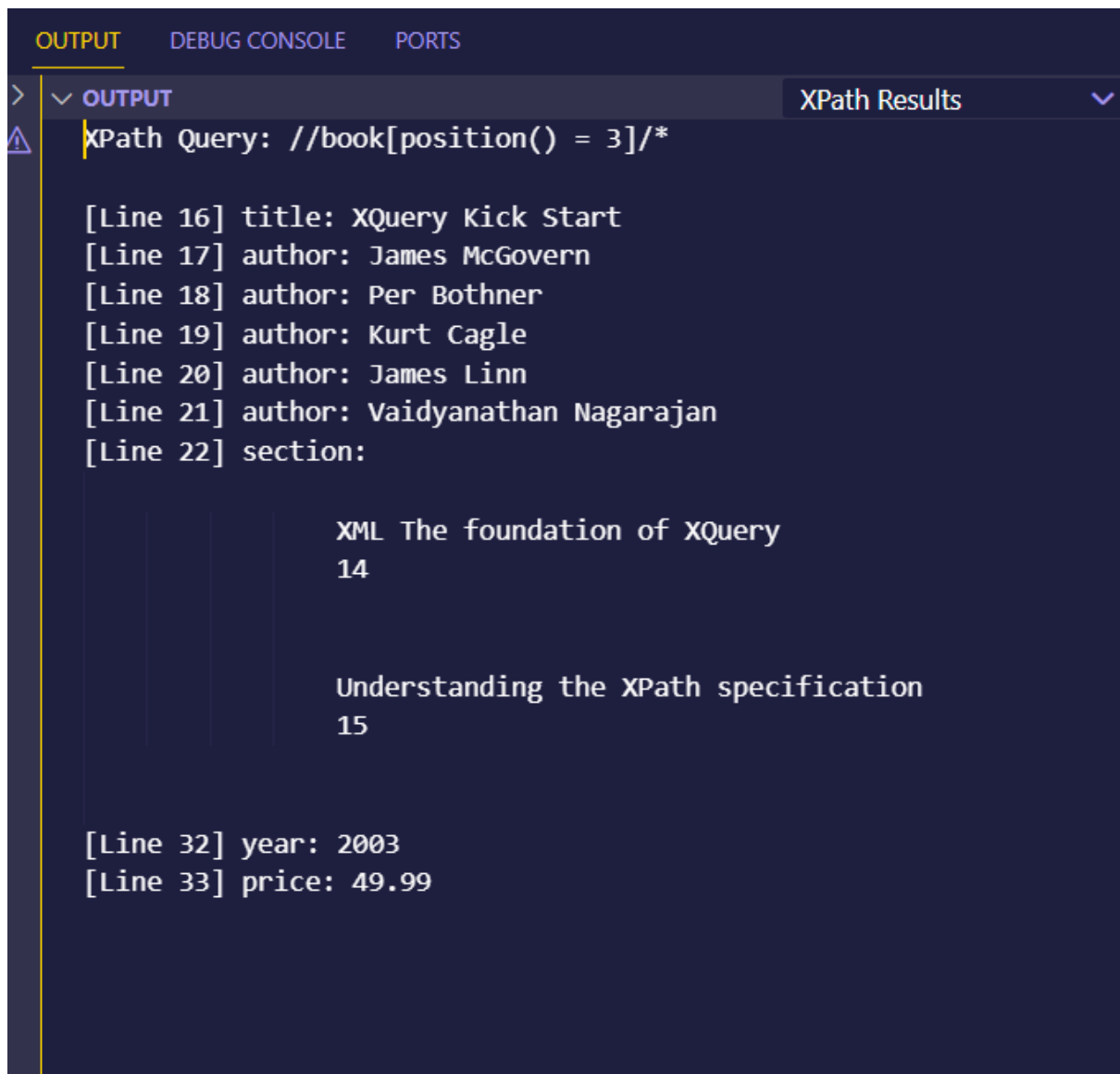
```
OUTPUT
XPath Query: //chapter[@num='1']/ancestor::book/title/text()

[Line 16] null: XQuery Kick Start
[Line 36] null: Learning XML
```

g. The third book with all its information:

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
XPath Query: //book[3]/*

[Line 16] title: XQuery Kick Start
[Line 17] author: James McGovern
[Line 18] author: Per Bothner
[Line 19] author: Kurt Cagle
[Line 20] author: James Linn
[Line 21] author: Vaidyanathan Nagarajan
[Line 22] section:
  XML The foundation of XQuery
  14
  Understanding the XPath specification
  15
[Line 32] year: 2003
[Line 33] price: 49.99
```



The screenshot shows a web browser's developer console with the 'OUTPUT' tab selected. The console displays the results of an XPath query: `//book[position() = 3]/*`. The results are listed line by line, showing the title, author, and section of the third book in the document. The first book is 'XML The foundation of XQuery' by James McGovern, and the second is 'Understanding the XPath specification' by Per Bothner. The third book, which is the result of the query, is 'XQuery Kick Start' by Kurt Cagle. The console also shows the year (2003) and price (49.99) of the book.

```
OUTPUT  DEBUG CONSOLE  PORTS
> OUTPUT XPath Results
XPath Query: //book[position() = 3]/*

[Line 16] title: XQuery Kick Start
[Line 17] author: James McGovern
[Line 18] author: Per Bothner
[Line 19] author: Kurt Cagle
[Line 20] author: James Linn
[Line 21] author: Vaidyanathan Nagarajan
[Line 22] section:
  XML The foundation of XQuery
  14
  Understanding the XPath specification
  15
[Line 32] year: 2003
[Line 33] price: 49.99
```

h. All elements with attributes:


```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS XPath Results
XPath Query: //*[@*]

[Line 3] book:
  Everyday Italian
  Giada De Laurentiis
  2005
  30.00

[Line 4] title: Everyday Italian
[Line 9] book:
  Harry Potter
  J K. Rowling
  2005
  29.99

[Line 10] title: Harry Potter
[Line 15] book:
  XQuery Kick Start
  James McGovern
  Per Bothner
  Kurt Cagle
  James Linn
  Vaidyanathan Nagarajan

  XML The foundation of XQuery
  14

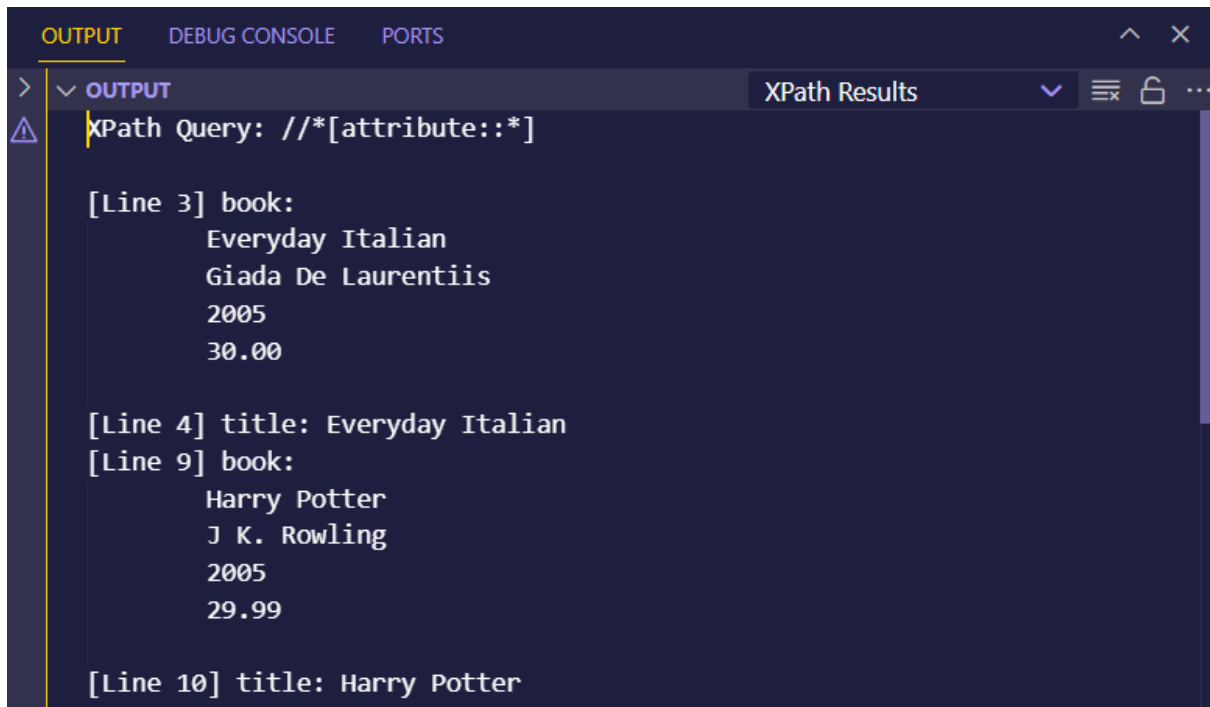
  Understanding the XPath specification
  15

  2003
  49.99

[Line 16] title: XQuery Kick Start
[Line 22] section:
  XML The foundation of XQuery
  14

  Understanding the XPath specification
  15

[Line 23] chapter:
  XML The foundation of XQuery
  14
```



The screenshot shows a web browser's developer console with the 'OUTPUT' tab selected. The 'XPath Results' pane is open, displaying the results of the XPath query `//*[attribute::*]`. The results are organized into a tree structure. The first node is '[Line 3] book:', which contains a text node 'Everyday Italian', another text node 'Giada De Laurentiis', a text node '2005', and a text node '30.00'. The second node is '[Line 4] title: Everyday Italian'. The third node is '[Line 9] book:', which contains a text node 'Harry Potter', another text node 'J K. Rowling', a text node '2005', and a text node '29.99'. The fourth node is '[Line 10] title: Harry Potter'.

```
XPath Query: //*[attribute::*]

[Line 3] book:
  Everyday Italian
  Giada De Laurentiis
  2005
  30.00

[Line 4] title: Everyday Italian
[Line 9] book:
  Harry Potter
  J K. Rowling
  2005
  29.99

[Line 10] title: Harry Potter
```

i. All elements with a category attribute:

XPath Query: `//*[category]`

[Line 3] book:

Everyday Italian
Giada De Laurentiis
2005
30.00

[Line 9] book:

Harry Potter
J K. Rowling
2005
29.99

[Line 15] book:

XQuery Kick Start
James McGovern
Per Bothner
Kurt Cagle
James Linn
Vaidyanathan Nagarajan

XML The foundation of XQuery
14

Understanding the XPath specification
15

2003
49.99

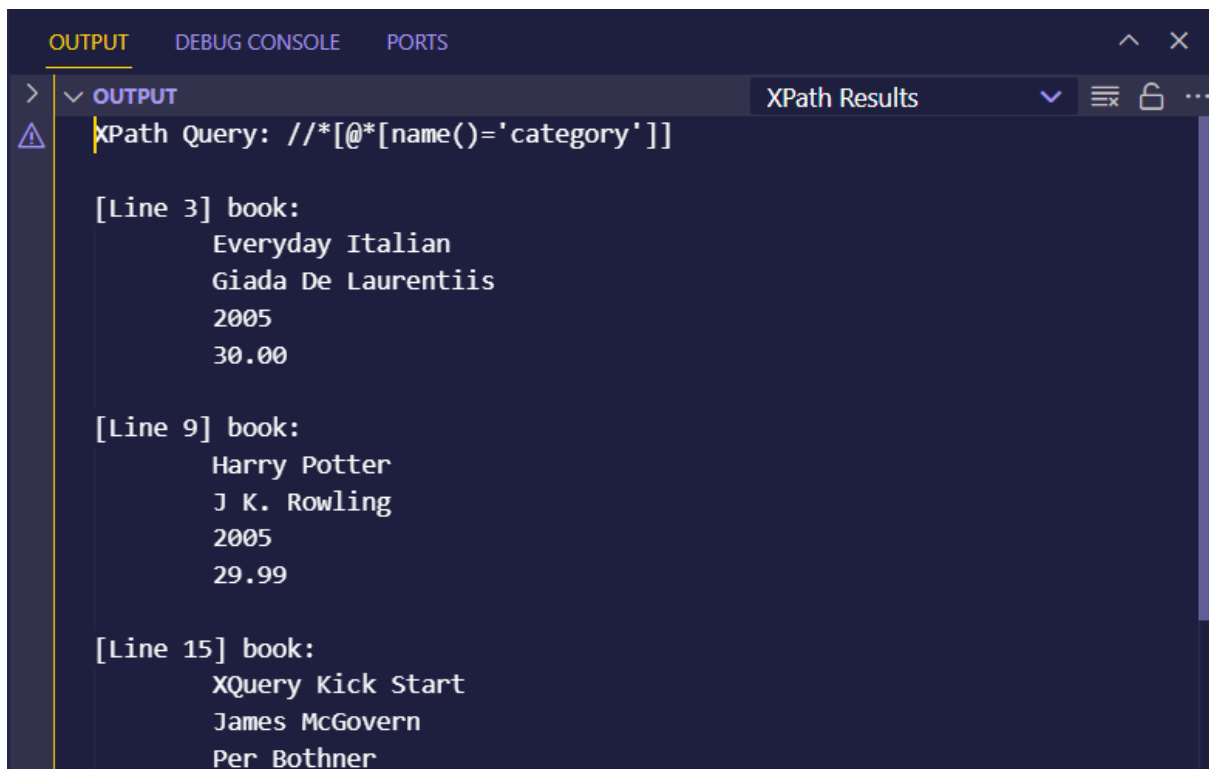
[Line 35] book:

Learning XML
Erik T. Ray

Introduction
24

Markup and Core Concepts
34

2003
39.95



The screenshot shows a web browser's developer console with the 'OUTPUT' tab selected. The XPath query entered is `//*[name()='category']`. The results are displayed as a list of books, each with its title, author, year, and price. The books are: 'Everyday Italian' by Giada De Laurentiis (2005, 30.00), 'Harry Potter' by J K. Rowling (2005, 29.99), and 'XQuery Kick Start' by James McGovern (Per Bothner).

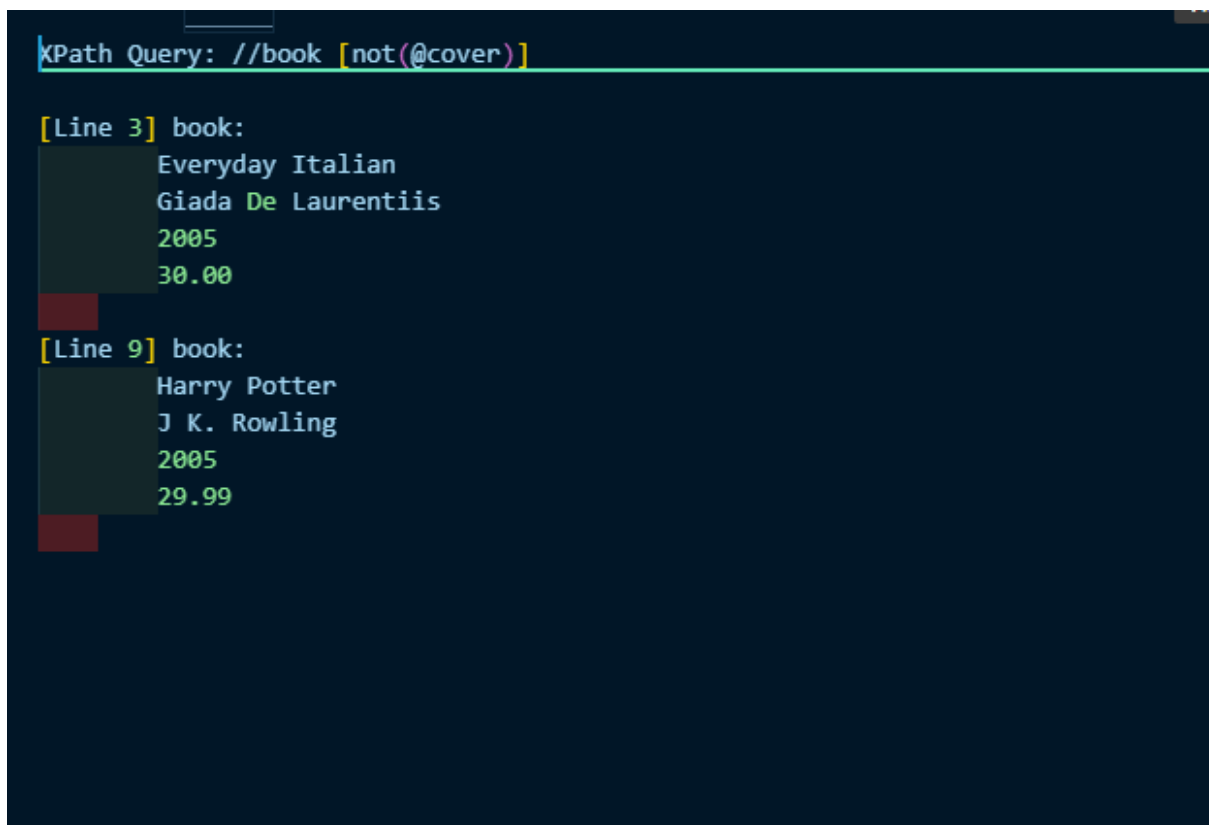
```
OUTPUT    DEBUG CONSOLE    PORTS
> OUTPUT    XPath Results
XPath Query: //*[name()='category']

[Line 3] book:
  Everyday Italian
  Giada De Laurentiis
  2005
  30.00

[Line 9] book:
  Harry Potter
  J K. Rowling
  2005
  29.99

[Line 15] book:
  XQuery Kick Start
  James McGovern
  Per Bothner
```

j. Books with no cover attribute:



The screenshot shows a web browser's developer console with the 'OUTPUT' tab selected. The XPath query entered is `//book [not(@cover)]`. The results are displayed as a list of books, each with its title, author, year, and price. The books are: 'Everyday Italian' by Giada De Laurentiis (2005, 30.00), 'Harry Potter' by J K. Rowling (2005, 29.99), and 'XQuery Kick Start' by James McGovern (Per Bothner).

```
OUTPUT    DEBUG CONSOLE    PORTS
> OUTPUT    XPath Results
XPath Query: //book [not(@cover)]

[Line 3] book:
  Everyday Italian
  Giada De Laurentiis
  2005
  30.00

[Line 9] book:
  Harry Potter
  J K. Rowling
  2005
  29.99

[Line 15] book:
  XQuery Kick Start
  James McGovern
  Per Bothner
```



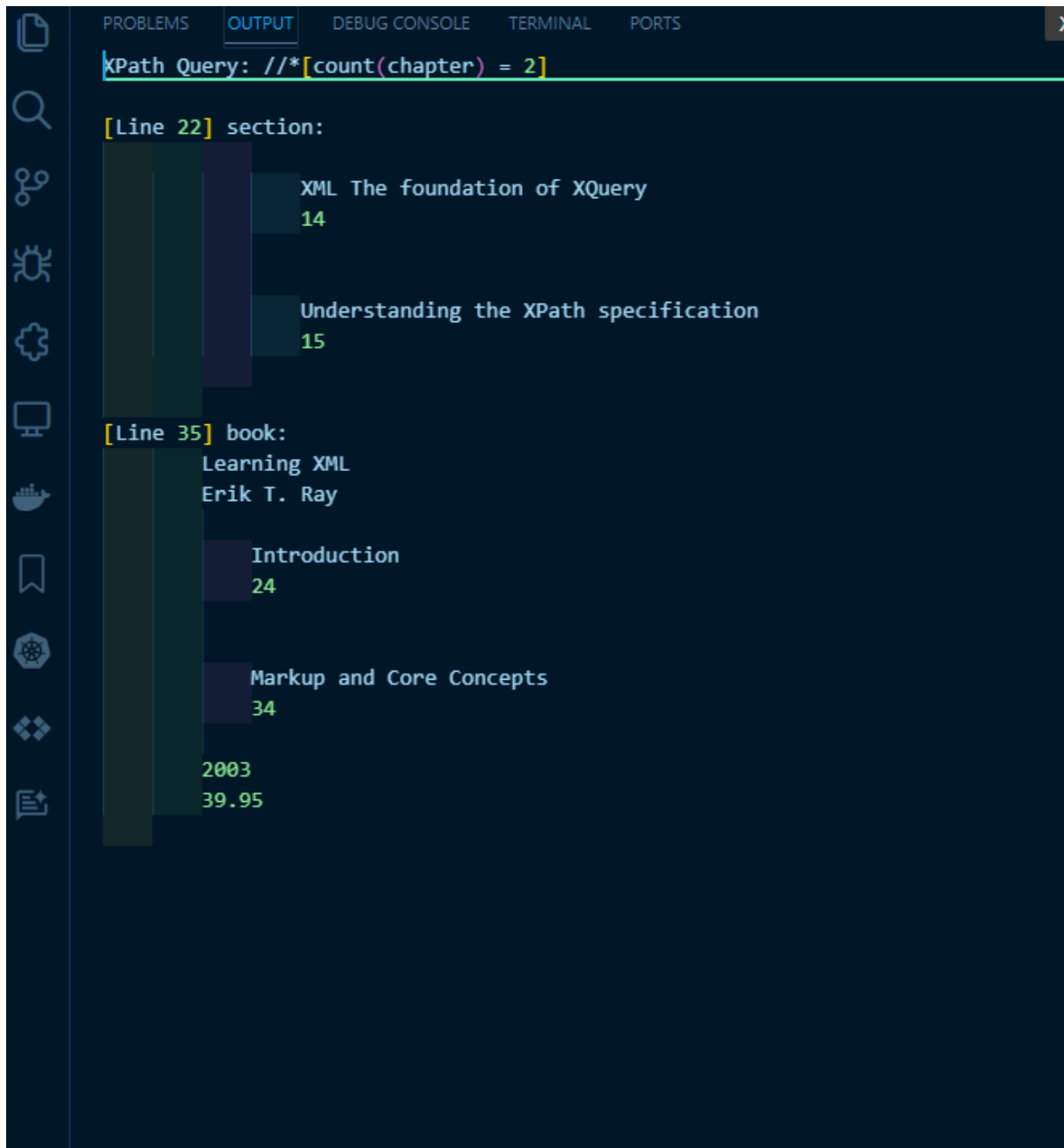
The screenshot shows a web browser's developer console with the 'OUTPUT' tab selected. The console displays the results of an XPath query: `//book[not(attribute::cover)]`. The results are presented as two JSON objects, one for each line of the query result. The first result, at [Line 3], is for the book 'Everyday Italian' by Giada De Laurentiis, published in 2005, with a price of 30.00. The second result, at [Line 9], is for the book 'Harry Potter' by J K. Rowling, published in 2005, with a price of 29.99. The console also shows a warning icon and the text 'XPath Result'.

```
> OUTPUT XPath Result
⚠ XPath Query: //book[not(attribute::cover)]

[Line 3] book:
  Everyday Italian
  Giada De Laurentiis
  2005
  30.00

[Line 9] book:
  Harry Potter
  J K. Rowling
  2005
  29.99
```

k. Elements with two chapters:



The screenshot shows an IDE's OUTPUT window with the following content:

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
```

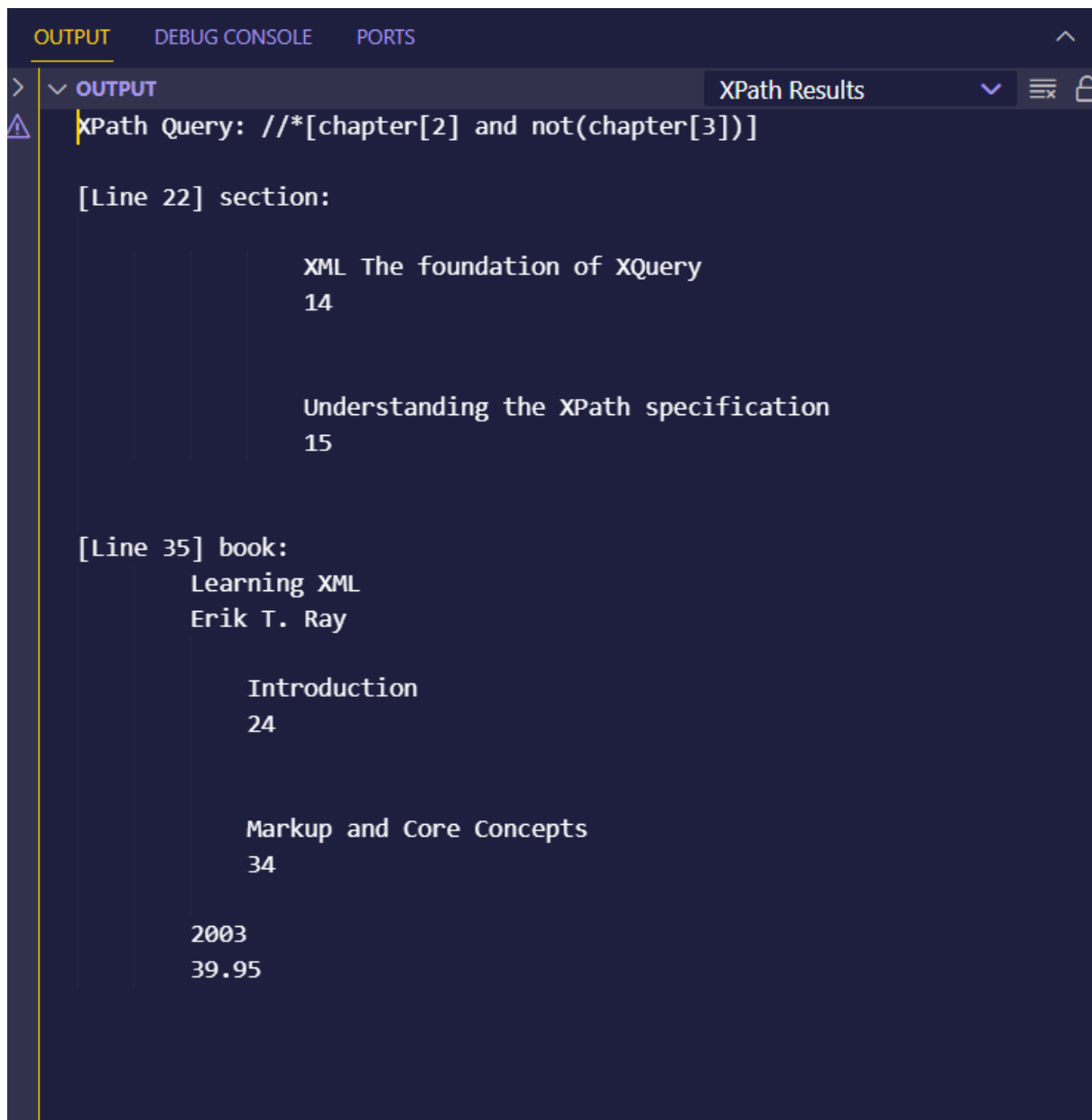
XPath Query: `//*[count(chapter) = 2]`

[Line 22] section:

- XML The foundation of XQuery
14
- Understanding the XPath specification
15

[Line 35] book:

- Learning XML
Erik T. Ray
- Introduction
24
- Markup and Core Concepts
34
- 2003
- 39.95



The screenshot shows an IDE's OUTPUT window with the following content:

```
OUTPUT    DEBUG CONSOLE    PORTS
> OUTPUT XPath Results
XPath Query: //*[chapter[2] and not(chapter[3])]

[Line 22] section:
    XML The foundation of XQuery
    14

    Understanding the XPath specification
    15

[Line 35] book:
    Learning XML
    Erik T. Ray

    Introduction
    24

    Markup and Core Concepts
    34

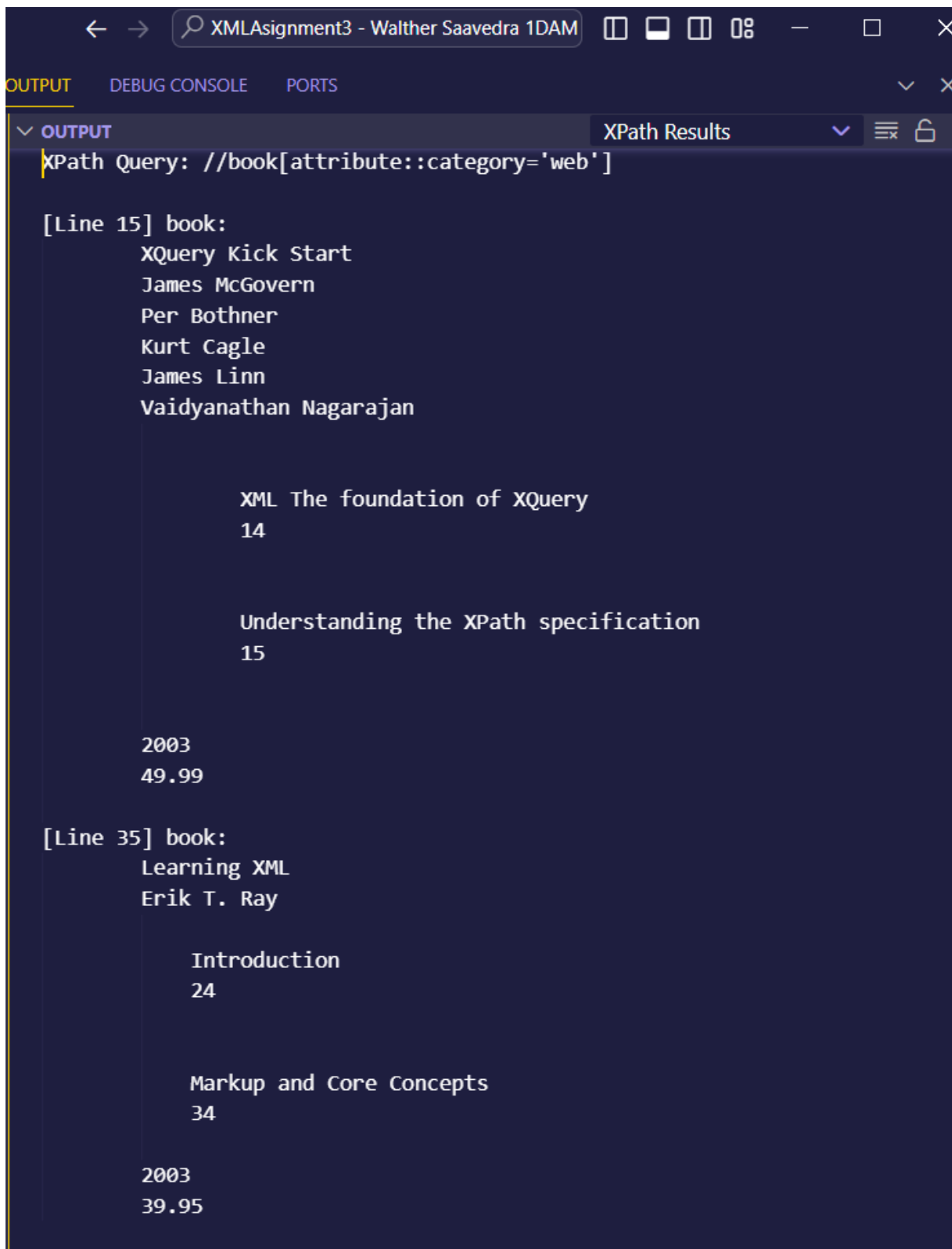
    2003
    39.95
```

I. Book's about markup languages:

```

XPath Query: //book[contains(@category, 'web')]

[Line 15] book:
  XQuery Kick Start
  James McGovern
  Per Bothner
  Kurt Cagle
  James Linn
  Vaidyanathan Nagarajan
  XML The foundation of XQuery
  14
  Understanding the XPath specification
  15
  2003
  49.99
[Line 35] book:
  Learning XML
  Erik T. Ray
  Introduction
  24
  Markup and Core Concepts
  34
  2003
  39.95
```

The screenshot shows a web browser window with the address bar displaying 'XMLAssignment3 - Walther Saavedra 1DAM'. Below the address bar, there are tabs for 'OUTPUT', 'DEBUG CONSOLE', and 'PORTS'. The 'OUTPUT' tab is active, showing 'XPath Results'. The query entered is 'XPath Query: //book[attribute::category='web']'. The results are displayed in a structured format with two main entries, each representing a book. The first entry, labeled '[Line 15] book:', lists the title 'XQuery Kick Start', author 'James McGovern', publisher 'Per Bothner', and a list of authors 'Kurt Cagle', 'James Linn', and 'Vaidyanathan Nagarajan'. It also shows the title 'XML The foundation of XQuery' with a price of '14', the title 'Understanding the XPath specification' with a price of '15', the year '2003', and the price '49.99'. The second entry, labeled '[Line 35] book:', lists the title 'Learning XML', author 'Erik T. Ray', the title 'Introduction' with a price of '24', the title 'Markup and Core Concepts' with a price of '34', the year '2003', and the price '39.95'.

```
XPath Query: //book[attribute::category='web']

[Line 15] book:
  XQuery Kick Start
  James McGovern
  Per Bothner
  Kurt Cagle
  James Linn
  Vaidyanathan Nagarajan

    XML The foundation of XQuery
    14

    Understanding the XPath specification
    15

  2003
  49.99

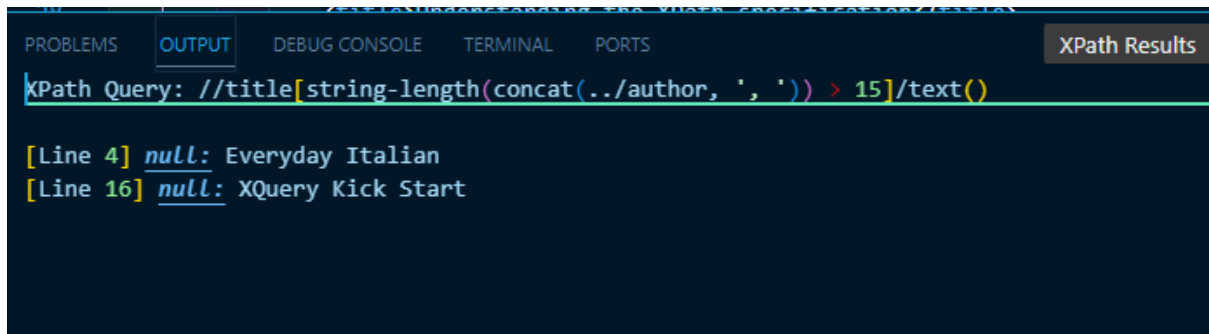
[Line 35] book:
  Learning XML
  Erik T. Ray

    Introduction
    24

    Markup and Core Concepts
    34

  2003
  39.95
```

m. Titles whose author's name value has more than 15 characters:



The screenshot shows an IDE's OUTPUT window with the 'OUTPUT' tab selected. The title bar of the window is 'XPath Results'. The text in the window is as follows:

```
XPath Query: //title[string-length(concat(..author, ', ')) > 15]/text()

[Line 4] null: Everyday Italian
[Line 16] null: XQuery Kick Start
```

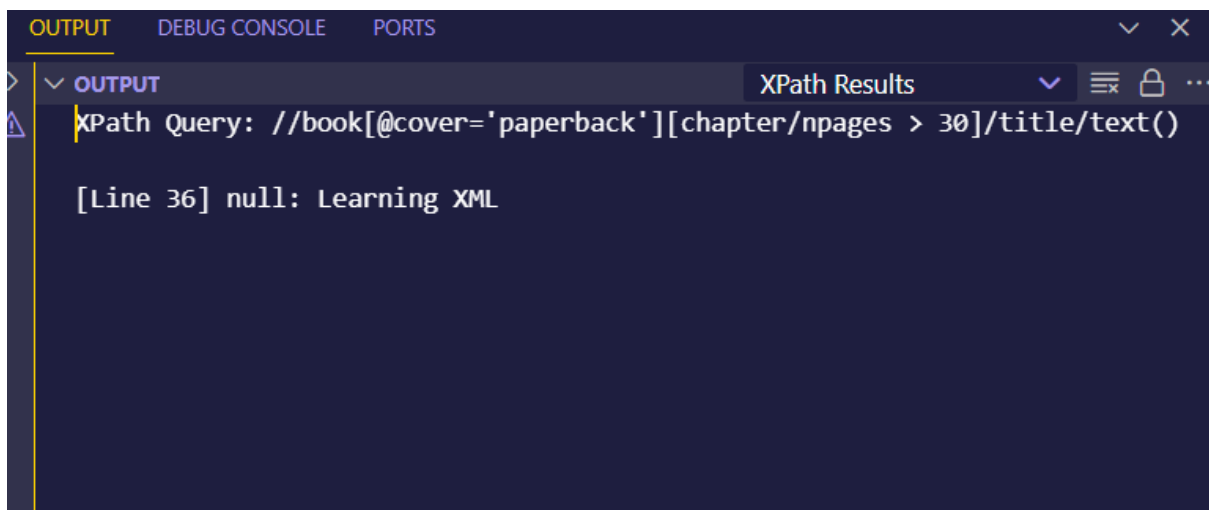
n. Title of paperback books with more than 30 pages in any chapter:



The screenshot shows an IDE's OUTPUT window with the 'OUTPUT' tab selected. The title bar of the window is 'XPath Results'. The text in the window is as follows:

```
XPath Query: //book[@cover='paperback' and chapter/npages > 30]/title/text()

[Line 36] null: Learning XML
```



The screenshot shows an IDE's OUTPUT window with the 'OUTPUT' tab selected. The title bar of the window is 'XPath Results'. The text in the window is as follows:

```
XPath Query: //book[@cover='paperback'][chapter/npages > 30]/title/text()

[Line 36] null: Learning XML
```