

CS 345B Homework 2: XQuery Practice Exercises

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Exercise 1:

Using the XML Document below, with the URI “bib.xml” (library with books), define the following queries in XQuery:

- a.) Give the titles of all Books sorted by Price.
- b.) How many books were written by Abiteboul?
- c.) Give for each author, the number of books he has written.

```
<?xml version="1.0"?>
<bib>
  <book year="1994">
    <title>TCP/IP Illustrated</title>
    <author>Stevens</author>
    <publisher>Addison-Wesley</publisher>
    <price>65.95</price>
  </book>
  <book year="1994">
    <title>Principles of Databases</title>
    <author>Abiteboul</author>
    <publisher>Addison-Wesley</publisher>
    <price>35.89</price>
  </book>
  <book year="1992">
    <title>Advanced Programming in the Unix environment</title>
    <author>Stevens</author>
    <publisher>Addison-Wesley</publisher>
    <price>65.95</price>
  </book>
  <book year="2000">
    <title>Data on the Web</title>
    <author>Abiteboul</author>
    <author>Buneman</author>
    <author>Suciu</author>
    <publisher>Morgan Kaufmann Publishers</publisher>
    <price> 39.95</price>
  </book>
  <book year="1992">
```

```
<title>The Economics of Technology and Content for Digital TV</title>
<editor>
  Gerbarg
  <affiliation>CITI</affiliation>
</editor>
<publisher>Kluwer Academic Publishers</publisher>
<price>129.95</price>
</book>
</bib>
```

Exercise 2: Surprising XQuery

1. Prove that in XQuery $1=2$
2. Prove that if $\$x > \y and $\$y > \z , $\$x > \z is not necessarily true

Exercise 3:

Consider the attached XML document (Flights.XML), which models data for a flight company.

Write the XQuery expressions for solving the following problems. Your results should be valid XML:

- a) Give the list of the direct flights on the date of '2006-12-24' which have "North Pole" (airport name) as the source airport.
 - b) Retrieve the list of the busiest airports on the date of '2006-12-24' (based on the number of departures and arrivals).
 - c) Identify all the flight destinations of the Passenger 'Santa Claus'.
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