

Exercise Sheet 7

XQuery (2)

Exercise 1: Writing queries in XQuery

Consider the XML document distributed together with this exercise (exercise6-1.xml validated against exercise6-1.xsd). It corresponds to the model created for Exercise sheet 3 (XML Schema). Write the XQuery expression for solving the following problems. Your results should be well-formed XML.

- 1.1. Give the list of the direct flights on the date of 2009-12-24 which have "North Pole" (airport name) as the source airport.
- 1.2. Retrieve the list of the busiest airports on the date of 2009-12-24 (based on the number of departures and arrivals).
- 1.3. Identify all the flight destinations of Passenger "Santa Claus".
- 1.4. Consider the case of combined flights (two or more). As an example, flying from London to Zurich on the date of 2008-12-24 might mean taking two separate flights: London-Amsterdam and Amsterdam Zurich, both on the same date. Retrieve all flight possibilities from "North pole" to "South pole" on the date of 2009-12-24 with one or two intermediate stops. Note that the schema was enhanced with departure and arrival times.

Exercise 2: Element constructors and node identities

2.1. Given is the following XQuery expression:

```
let $a := <a/> let $b := <b>{$a}</b> return $b/a is $a
```

Is the result true, false, or an error? Explain the result.

2.2. As a comparison, what is the result of the following expression?

```
let $a := <a/> let $b := $a return $b is $a
```

Exercise 3: Launching your queries

Use Oxygen or the XQuery Development Tools (a plugin for Eclipse, <http://www.xqdt.org>) to run the queries on your instance!