

Solution Sheet 7
XQuery (2)

Exercise 1: Simple queries in XQuery

1.1.

```
<Flights>
{
let $fl := doc("exercise7-1.xml")
for $a in $fl//Airport[name eq 'North Pole']
return $fl//Flight[(source eq $a/@airId) and (date eq '2009-12-24')]
}
</Flights>
```

1.2.

```
let $doc := doc("exercise7-1.xml")
let $results := (
<order>
{
for $a in $doc//Airport
let $c := count($doc//Flight[(./source eq $a/@airId)
or
(./destination eq $a/@airId)])
order by $c descending, $a/name ascending
return
<result>
{ $a }
<count>{ $c }</count>
</result>
}
</order>
)
let $maxcount := max($results//count)
return $results/result[xs:integer(./count) eq $maxcount]
```

1.3.

```
let $doc := doc("exercise7-1.xml")
for $p in $doc//Passenger[name eq 'Santa Claus'],
  $r in $doc//Reservation
where $r/passRef eq $p/passportnumber
return
let $destinations := distinct-values(
  $doc//Airport
  [ @airId eq $doc//Flight
    [$r/flightRef eq @flightId]
    /destination
  ]/name
)
return
<destinations>
  {for $destination in $destinations
  return <destination>{$destination}</destination>}
</destinations>
```

1.4.

```
let $doc := doc("exercise7-1.xml")
return
<Possibilities>{
  for $f1 in $doc//Flight[./source eq 'NPL'],
    $f2 in $doc//Flight[destination eq 'SPL']
  where $f1/destination eq $f2/source
    and xs:time($f1/arrival) lt xs:time($f2/departure)
    and $f1/seats > 0 and $f2/seats > 0
  return
  <OneIntermediateStop>
    {$f1}
    {$f2}
  </OneIntermediateStop>,
  for $f1 in $doc//Flight[./source eq 'NPL'],
    $f3 in $doc//Flight[destination eq 'SPL'],
    $f2 in $doc//Flight
  where $f1/destination eq $f2/source
    and $f2/destination eq $f3/source
    and xs:time($f1/arrival) lt xs:time($f2/departure)
    and xs:time($f2/arrival) lt xs:time($f3/departure)
    and $f1/seats > 0 and $f2/seats > 0 and $f3/seats > 0
  return
  <TwoIntermediateStops>
    {$f1}
    {$f2}
    {$f3}
  </TwoIntermediateStops>
}</Possibilities>
```