

XQuery and XPath Solutions

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1 Solutions

Question 1

XPath:

```
doc("../world.xml")//country[name="Croatia"]/  
government
```

Question 2

XPath:

```
doc("../world.xml")//mountain/name | doc("../world.xml"  
)//mountain/height
```

Question 3

XQuery:

```
for $c in doc("../world.xml")//country  
where contains($c/government, "monarchy")  
return <result>{$c/name, $c/government}</result>
```

Question 4

XPath:

```
let $max := max(doc("../world.xml")//country/provinces  
)  
return doc("../world.xml")//country[provinces=$max]/  
name
```

Question 5

XQuery:

```
for $c in doc("../world.xml")//country[continent="Europe"]
where $c/area > 75000
return <result>{$c/name, $c/area}</result>
```

Question 6

XQuery:

```
let $max := max(for $c in doc("../world.xml")//continent return count($c/country))
return doc("../world.xml")//continent[count(country)=$max]/name
```

Question 7

XQuery:

```
for $c in doc("../world.xml")//country
where count($c/border) >= 5
return $c/name
```

Question 8

XQuery:

```
for $c in doc("../world.xml")//country[continent="Asia"]
order by $c/area descending
return <result>{$c/name, $c/area}</result>
```

Question 9

XQuery:

```
let $max := max(doc("../world.xml")//country/ethnic_groups)
return doc("../world.xml")//country[ethnic_groups=$max]/name
```

Question 10

XQuery:

```
let $maxGDP := max(for $c in doc("../world.xml")//
  country where $c/gdp_total and $c/population return
  $c/gdp_total div $c/population)
return doc("../world.xml")//country[(($gdp_total div
  population) = $maxGDP)/name]
```

Question 11

XQuery:

```
let $minLake := min(for $l in doc("../world.xml")//
  lake where count($l/borders/country) >= 3 return $l
  /area)
return doc("../world.xml")//lake[area=$minLake]/name
```

Question 12

XQuery:

```
for $c in doc("../world.xml")//country[EU_member="true
  "]
where $c/area > 500000
return $c/name
```

Question 13

XQuery:

```
for $o in doc("../world.xml")//organization
where starts-with($o/name, "A")
return $o/name
```

Question 14

XQuery:

```
for $c in doc("../world.xml")//country
where $c/population > 20000000 and $c/
  population_growth < 0
return <result>{$c/name, $c/population, $c/
  population_growth}</result>
```

Question 15

XQuery:

```
for $c in doc("../world.xml")//country
let $religion := $c/religions/religion[contains(., "
    Anglican")][1]
where $religion and max($c/religions/religion/
    percentage) = $religion/percentage
return <result>{$c/name, $religion, $religion/
    percentage}</result>
```

Question 16

XQuery:

```
for $c in doc("../world.xml")//country
where $c/inflation < 2
return <result>{$c/name, $c/inflation}</result>
```

Question 17

XQuery:

```
for $l in doc("../world.xml")//lake[country="Zambia"]
where $l/area
return <result>{$l/name, $l/area}</result>
```

Question 18

XQuery:

```
let $avgHeight := avg(doc("../world.xml")//mountain/
    height)
for $m in doc("../world.xml")//mountain
where $m/height > $avgHeight
return <result>{$m/name, $m/height}</result>
```

Bonus Questions

Bonus 1:

```
for $r in doc("../world.xml")//river
where $r/length > 3000 and count($r/country) >= 3
return <result>{$r/name, $r/length, count($r/country)
}</result>
```

Bonus 2:

```
for $c in doc("../world.xml")//country
let $most_spoken := max($c/languages/language/
    percentage)
where count($c/languages/language) > 3 and
    $most_spoken > 60
return <result>{$c/name, count($c/languages/language),
    $most_spoken}</result>
```