

**Duration:** 90 Minutes



**Q5.** Write a XSD to be used to validate the data given in the following XML file.

```
<?xml version="1.0" encoding="UTF-8"?>
<contacts>
  <name id="101">
    <first>Aaron</first>
    <last>Mark</last>
  </name>
  <name id="102">
    <first>John</first>
    <first>Fitzgerald</first>
    <last>Doe</last>
  </name>
  <name id="103">
    <first>Rose</first>
    <first>Mary</first>
    <first>Sue</first>
    <middle>Bella</middle>
    <last>Rich</last>
  </name>
  <name id="104">
    <first>John</first>
    <middle>Johansen</middle>
    <last>Dark</last>
  </name>
</contacts>
```

**Q6.** Write a valid XSL to transform given xml into given output.

*output*

```
<?xml version="1.0"?>
<class>
  <student id="456">
    <name>Ali Veli </name>
  </student>
  <student id="789">
    <name>Oya Can</name>
  </student>
  <student id="123">
    <name>Cem Pak</name>
  </student>
</class>
```

## CLASS LIST

ID	Name
123	Cem Pak
456	Ali Veli
789	Oya Can

**Q7.** For the following XML file; write the a FLOWER query in XQUERY for each question.

```
<catalog>
  <product dept="WMN">
    <number>557</number>
    <name language="en">Fleece Pullover</name>
    <price>35</price>
  </product>
  <product dept="WMN">
    <number>563</number>
    <name language="en">Floppy Sun Hat</name>
    <price>17</price>
  </product>
  <product dept="MEN">
    <number>443</number>
    <name language="en">Deluxe Travel Bag</name>
    <price>150</price>
  </product>
  <product dept="MEN">
    <number>784</number>
    <name language="en">Cotton Dress Shirt</name>
    <price>75</price>
  </product>
</catalog>
```

- a) List all products, in order of number value in descending order. In the result display a sequence number for each item to be listed.

.....

.....

.....

.....

- b) List all product names whose language attribute is “en”, present the result is an HTML unordered list.

.....

.....

.....

.....

- c) List product names and numbers from MEN department, where value of number is between 500 and 600, inclusively.

.....

.....

.....

.....

- d) List the product names and price, which are cheaper than \$100. Present the result in red color if dept is WMN and black if it is MEN.

.....

.....

.....

.....

**Q8.** Write the following XML file in JSON format.

```
<?xml version="1.0" encoding="UTF-8"?>
<contacts>
  <name id="101">
    <first>Aaron</first>
    <last>Mark</last>
  </name>
  <name id="102">
    <first>John</first>
    <first>Fitzgerald</first>
    <last>Doe</last>
  </name>
  <name id="103">
    <first>Rose</first>
    <first>Mary</first>
    <first>Sue</first>
    <middle>Bella</middle>
    <last>Rich</last>
  </name>
  <name id="104">
    <first>John</first>
    <middle>Johansen</middle>
    <last>Dark</last>
  </name>
</contacts>
```

## Disk Parameters

parameter	definition	value
$B$	block size	2400 bytes
$b_{tt}$	block transfer time	$0.8 \text{ ms} = B / t$
$C$	blocks per cylinder	600
$e_{bt}$	effective block transfer time	$0.84 \text{ ms} = B / t'$
$m$	minimum seek time	3 ms
$N$	number of cylinders	885 (per spindle)
$r$	average rotational latency	8.3 ms
$s$	average seek time	16 ms
$t$	speed	3.000 bytes/ms
$t'$	formatted speed	2857 bytes/ms

## Disk Parameters

parameter	definition	value
$B$	block size	2400 bytes
$btt$	block transfer time	$0.8 \text{ ms} = B / t$
$C$	blocks per cylinder	600
$ebt$	effective block transfer time	$0.84 \text{ ms} = B / t'$
$m$	minimum seek time	3 ms
$N$	number of cylinders	885 (per spindle)
$r$	average rotational latency	8.3 ms
$s$	average seek time	16 ms
$t$	speed	3.000 bytes/ms
$t'$	formatted speed	2857 bytes/ms