# **CME2002 Data Organization & Management** *Midterm Exam, Spring 2016*





Student No Name	:		<b>Duration:</b> 90 Minutes
Q1-Q2 <b>→</b> 5	points, Q3Q8 → 10 poin	nts, Q9-Q10 → 15 points.	
	ibe the terms <b>data</b> , <b>infor</b> their relationships.	mation and knowledge briefly	. Give examples to all of them
	ibe the following terms sho		
Cluster:			
Cylinder:			
Seek Time	:		
Virtualizati	ion:		

discuss their	eld structures ir pros and co	ons.	to separe	ite freids i		,,		detaic on
. Describe tl	he possible p	oroblems w	vith using	attributes	to store d	lata in XN	ИL? Whei	n is the us
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. Describe the ibutes accep	he possible p	problems w	vith using	attributes	to store d	lata in XN	1L? When	n is the us
. Describe the ibutes accep	he possible potable?	problems w	vith using	attributes	to store d	lata in XN	4L? When	n is the us
. Describe the ibutes accep	he possible potable?	problems w	vith using	attributes	to store d	lata in XN	1L? When	n is the us
. Describe the ibutes accep	he possible p	problems w	vith using	attributes	to store d	lata in XN	1L? When	n is the us
. Describe the ibutes accep	he possible p	problems w	vith using	attributes	to store d	lata in XN	4L? When	n is the us
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. Describe the ibutes accep	he possible potable?	problems w	vith using	attributes	to store d	lata in XN	4L? When	n is the us

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
 </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
 </name>
</contacts>
```

## output

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

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

a)	List all products, in order of <u>number</u> value in descending order. In the result display a sequence number for each item to be listed.
<b>b</b> )	List all product names whose language attribute is "en", present the result is an HTML unordered list
e)	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
  </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
  </name>
</contacts>
```

<b>Q9</b> . Describe how page size affects <b>point</b> and <b>range</b> queries. Describe on an example.				

## **Disk Parameters**

parameter	definition	value
$\overline{B}$	block size	2400 bytes
<u>btt</u>	block transfer time	0.8  ms = B / t
<u>C</u>	blocks per cylinder	600
ebt	effective block transfer time	0.84  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
<u>t</u>	speed	3.000 bytes/ms
<u>t'</u>	formatted speed	2857 bytes/ms

Q10. Which page size is more efficient for an unordered pile file? 2400 or 4800 bytes?

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<u>t'</u>	formatted speed	2857 bytes/ms