Name: Anushka Harshavadan Nevgi
Roll no: 07
Experiment: 8. Implementing XML queries using XQueries and XPath

food.xml

```
<breakfast_menu>
<food>
<name>belgian waffles</name>
<price>$5.95</price>
<description>two of our famous belgian waffles with plenty of real maple syrup</description>
<calories>650</calories>
</food>

<food>
<name>strawberry belgian waffles</name>
<price>$7.95</price>
<description>light belgian waffles covered with strawberries and whipped cream</description>
<calories>900</calories>
</food>

<food>
<name>berry-berry belgian waffles</name>
<price>$8.95</price>
<description>light belgian waffles covered with an assortment of fresh berries and whipped
cream</description>
<calories>900</calories>
</food>

<food>
<name>french toast</name>
<price>$4.50</price>
<description>thick slices made from our homemade sourdough bread</description>
<calories>600</calories>
</food>

<food>
<name>homestyle breakfast</name>
<price>$6.95</price>
<description>two eggs, bacon or sausage, toast, and our ever-popular hash browns</description>
<calories>950</calories>
</food>
</breakfast_menu>
```

1. what are the names of all breakfast foods?

```
for $x in doc("d:/anushka/food.xml")/breakfast_menu/food
return $x/name
```

```
<name>Belgian Waffles</name>
<name>Strawberry Belgian Waffles</name>
<name>Berry-Berry Belgian Waffles</name>
<name>French Toast</name>
<name>Homestyle Breakfast</name>
```

2. what are the names and prices of all foods with calories above 800?

```
for $x in doc("d:/anushka/food.xml")/breakfast_menu/food
where $x/calories>800
return ($x/name, $x/price)
```

```
<name>Strawberry Belgian Waffles</name>
<price>7.95</price>
<name>Berry-Berry Belgian Waffles</name>
<price>8.95</price>
<name>Homestyle Breakfast</name>
<price>6.95</price>
```

3. what are the names and price of all foods that cost less than 6?

```
for $x in doc("d:/anushka/food.xml")/breakfast_menu/food
```

where $x/price<7
return ($x/name, $x/price)

```
<name>Belgian Waffles</name>
<price>5.95</price>
<name>French Toast</name>
<price>4.50</price>
<name>Homestyle Breakfast</name>
<price>6.95</price>
```

4. print all name and calories of food items

```
for $x in
doc("d:/anushka/food.xml")/breakfast_menu/food
return ($x/name, $x/calories)
```

```
<name>Belgian Waffles</name>
<calories>650</calories>
<name>Strawberry Belgian Waffles</name>
<calories>900</calories>
<name>Berry-Berry Belgian Waffles</name>
<calories>900</calories>
<name>French Toast</name>
<calories>600</calories>
<name>Homestyle Breakfast</name>
<calories>950</calories>
```

5. ordering by price in ascending order

```
for $x in
doc("d:/anushka/food.xml")/breakfast_menu/food
order by $x/price
return ($x/name)
```

```
<name>French Toast</name>
<name>Belgian Waffles</name>
<name>Homestyle Breakfast</name>
<name>Strawberry Belgian Waffles</name>
<name>Berry-Berry Belgian Waffles</name>
```

6. ordering by calories where the price are <7

```
for $x in
doc("d:/anushka/food.xml")/breakfast_menu/food
order by $x/calories
where $x/price <7
return ($x/name)
```

```
<name>French Toast</name>
<name>Belgian Waffles</name>
<name>Homestyle Breakfast</name>
```

7. ordering by name and return description

```
for $x in
doc("d:/anushka/food.xml")/breakfast_menu/food
order by $x/name
return ($x/name, $x/description)
```

```
<name>Belgian Waffles</name>
<description>Two of our famous Belgian Waffles with plenty of real maple syrup</description>
<name>Berry-Berry Belgian Waffles</name>
<description>Light Belgian waffles covered with an assortment of fresh berries and whipped cream</description>
<name>French Toast</name>
<description>Thick slices made from our homemade sourdough bread</description>
<name>Homestyle Breakfast</name>
<description>Two eggs, bacon or sausage, toast, and our ever-popular hash browns</description>
<name>Strawberry Belgian Waffles</name>
<description>Light Belgian waffles covered with strawberries and whipped cream</description>
```

8. find description of belgian waffles

```
for $x in
doc("d:/anushka/food.xml")/breakfast_menu/food
where $x/name="belgian waffles"
return ($x/description)
```

```
<description>Two of our famous Belgian Waffles with plenty of real maple syrup</description>
```

9. find food item where price <7 and calories <700

```
for $x in
doc("d:/anushka/food.xml")/breakfast_menu/food
where $x/price < 7 and $x/calories < 700
return ($x/name)
```

```
<name>Belgian Waffles</name>
<name>French Toast</name>
```

10. where price <7 or calories <700

```
for $x in
doc("d:/anushka/food.xml")/breakfast_menu/food
where $x/price < 7 or $x/calories < 700
return ($x/name)
```

```
<name>Belgian Waffles</name>
<name>French Toast</name>
<name>Homestyle Breakfast</name>
```

cd.xml

```
<catalog>
<cd>
<title>empire burlesque</title>
<artist>bob dylan</artist>
<country>usa</country>
<company>columbia</company>
<price>10.90</price>
<year>1985</year>
</cd>

<cd>
<title>hide your heart</title>
<artist>bonnie tyler</artist>
<country>uk</country>
<company>cbs records</company>
<price>9.90</price>
<year>1988</year>
</cd>

<cd>
<title>greatest hits</title>
<artist>dolly parton</artist>
<country>usa</country>
<company>rca</company>
<price>9.90</price>
<year>1982</year>
</cd>

<cd>
<title>still got the blues</title>
<artist>gary moore</artist>
<country>uk</country>
<company>virgin records</company>
<price>10.20</price>
<year>1990</year>
</cd>

<cd>
<title>eros</title>
<artist>eros ramazzotti</artist>
<country>eu</country>
<company>bmg</company>
<price>9.90</price>
<year>1997</year>
</cd>
</catalog>
```

1. print names of all the titles

```
for $x in
doc("d:/anushka/catalog.xml")/catalog/cd
return $x/title
```

```
<TITLE>Empire Burlesque</TITLE>
<TITLE>Hide your heart</TITLE>
<TITLE>Greatest Hits</TITLE>
<TITLE>Still got the blues</TITLE>
<TITLE>Eros</TITLE>
```

2. of country usa

```
for $x in
doc("d:/anushka/catalog.xml")/catalog/cd
where $x/country = "usa"
return $x/title
```

```
<TITLE>Empire Burlesque</TITLE>
<TITLE>Greatest Hits</TITLE>
```

3. of country usa and price <10

```
for $x in
doc("d:/anushka/catalog.xml")/catalog/cd
where $x/country = "usa" and $x/price <
10
return $x/title
```

```
<TITLE>Greatest Hits</TITLE>
```

4. name of titles in chronological order

```
for $x in
doc("d:/anushka/catalog.xml")/catalog/cd
order by $x/year
return $x/title
```

```
<TITLE>Empire Burlesque</TITLE>
<TITLE>Hide your heart</TITLE>
<TITLE>Greatest Hits</TITLE>
<TITLE>Still got the blues</TITLE>
<TITLE>Eros</TITLE>
```

5. to print title of bob dylan

```
for $x in
doc("d:/anushka/catalog.xml")/catalog/cd
where $x/artist = "bob dylan"
```

return $x/title

```
<TITLE>Empire Burlesque</TITLE>
```

6. of either bob dylan or bonnie tyler

```
for $x in
doc("d:/anushka/catalog.xml")/catalog/cd
where $x/artist = "bob dylan" or $x/artist =
"bonnie tyler"
return $x/title
```

```
<TITLE>Empire Burlesque</TITLE>
<TITLE>Hide your heart</TITLE>
```

7. ascending order of artist name

```
for $x in
doc("d:/anushka/catalog.xml")/catalog/cd
order by $x/artist
return $x/artist
```

```
<ARTIST>Bob Dylan</ARTIST>
<ARTIST>Bonnie Tyler</ARTIST>
<ARTIST>Dolly Parton</ARTIST>
<ARTIST>Eros Ramazzotti</ARTIST>
<ARTIST>Gary Moore</ARTIST>
```

8. of the year 1990

```
for $x in
doc("d:/anushka/catalog.xml")/catalog/cd
where $x/year = 1990
return ($x/title, $x/artist)
```

```
<TITLE>Still got the blues</TITLE>
<ARTIST>Gary Moore</ARTIST>
```

9. for title and name of all

```
for $x in
doc("d:/anushka/catalog.xml")/catalog/cd
return ($x/title, $x/artist)
```

```
<TITLE>Empire Burlesque</TITLE>
<ARTIST>Bob Dylan</ARTIST>
<TITLE>Hide your heart</TITLE>
<ARTIST>Bonnie Tyler</ARTIST>
<TITLE>Greatest Hits</TITLE>
<ARTIST>Dolly Parton</ARTIST>
<TITLE>Still got the blues</TITLE>
<ARTIST>Gary Moore</ARTIST>
<TITLE>Eros</TITLE>
<ARTIST>Eros Ramazzotti</ARTIST>
```

10. all information about empire burlesque

```
for $x in
doc("d:/anushka/catalog.xml")/catalog/cd
where $x/title = "empire burlesque"
return ($x/title, $x/artist, $x/company,
$x/year)
```

```
<TITLE>Empire Burlesque</TITLE>
<ARTIST>Bob Dylan</ARTIST>
<COMPANY>Columbia</COMPANY>
<YEAR>1985</YEAR>
```

plant.xml

```
<catalog>
<plant>
<common>bloodroot</common>
<botanical>sanguinaria
canadensis</botanical>
<zone>4</zone>
<light>mostly shady</light>
<price>2.44</price>
<availability>031599</availability>
</plant>

<plant>
<common>columbine</common>
<botanical>aquilegia
canadensis</botanical>
<zone>3</zone>
<light>mostly shady</light>
<price>9.37</price>
<availability>030699</availability>
</plant>

<plant>
<common>marsh marigold</common>
<botanical>caltha palustris</botanical>
<zone>4</zone>
<light>mostly sunny</light>
<price>6.81</price>
<availability>051799</availability>
</plant>

<plant>
<common>cowslip</common>
<botanical>caltha palustris</botanical>
<zone>4</zone>
<light>mostly shady</light>
<price>9.90</price>
<availability>030699</availability>
</plant>

<plant>
<common>dutchman's-
breeches</common>
<botanical>dicentra cucullaria</botanical>
<zone>3</zone>
<light>mostly shady</light>
<price>6.44</price>
<availability>012099</availability>
</plant>
</catalog>
```

1. for $x in
doc("d:\anushka\plant.xml")/catalog/plant
where $x/price >= 3
return $x/common

```
<COMMON>Columbine</COMMON>
<COMMON>Marsh Marigold</COMMON>
<COMMON>Cowslip</COMMON>
<COMMON>Dutchman's-Breeches</COMMON>
```

2. for $x in
doc("d:\anushka\plant.xml")/catalog/plant
return $x/botanical

```
<BOTANICAL>Sanguinaria canadensis</BOTANICAL>
<BOTANICAL>Aquilegia canadensis</BOTANICAL>
<BOTANICAL>Caltha palustris</BOTANICAL>
<BOTANICAL>Caltha palustris</BOTANICAL>
<BOTANICAL>Dicentra cucullaria</BOTANICAL>
```

3. for $x in
doc("d:\anushka\plant.xml")/catalog/plant
order by $x/availability
return $x/availability

```
<AVAILABILITY>012099</AVAILABILITY>
<AVAILABILITY>030699</AVAILABILITY>
<AVAILABILITY>030699</AVAILABILITY>
<AVAILABILITY>031599</AVAILABILITY>
<AVAILABILITY>051799</AVAILABILITY>
```

4. for $x in
doc("d:\anushka\plant.xml")/catalog/plant
order by $x/price
return $x/common

```
<COMMON>Bloodroot</COMMON>
<COMMON>Dutchman's-Breeches</COMMON>
<COMMON>Marsh Marigold</COMMON>
<COMMON>Columbine</COMMON>
<COMMON>Cowslip</COMMON>
```

5. for $x in
doc("d:\anushka\plant.xml")/catalog/plant
where $x/zone = 4
return ($x/common, $x/price)

```
<COMMON>Bloodroot</COMMON>
<PRICE>2.44</PRICE>
<COMMON>Marsh Marigold</COMMON>
<PRICE>6.81</PRICE>
<COMMON>Cowslip</COMMON>
<PRICE>9.90</PRICE>
```

6. for $x in
doc("d:\anushka\plant.xml")/catalog/plant
order by $x/zone
return ($x/common, $x/availability)

```
<COMMON>Columbine</COMMON>
<AVAILABILITY>030699</AVAILABILITY>
<COMMON>Dutchman's-Breeches</COMMON>
<AVAILABILITY>012099</AVAILABILITY>
<COMMON>Bloodroot</COMMON>
<AVAILABILITY>031599</AVAILABILITY>
<COMMON>Marsh Marigold</COMMON>
<AVAILABILITY>051799</AVAILABILITY>
<COMMON>Cowslip</COMMON>
<AVAILABILITY>030699</AVAILABILITY>
```

7. for $x in
doc("d:\anushka\plant.xml")/catalog/plant
where $x/light = 'mostly shady'
return ($x/botanical, $x/price)

```
<BOTANICAL>Sanguinaria canadensis</BOTANICAL>
<PRICE>2.44</PRICE>
<BOTANICAL>Aquilegia canadensis</BOTANICAL>
<PRICE>9.37</PRICE>
<BOTANICAL>Caltha palustris</BOTANICAL>
<PRICE>9.90</PRICE>
<BOTANICAL>Dicentra cucullaria</BOTANICAL>
<PRICE>6.44</PRICE>
```

8. for $x in
doc("d:\anushka\plant.xml")/catalog/plant
order by $x/botanical
return ($x/price, $x/availability)

```
<PRICE>9.37</PRICE>
<AVAILABILITY>030699</AVAILABILITY>
<PRICE>6.81</PRICE>
<AVAILABILITY>051799</AVAILABILITY>
<PRICE>9.90</PRICE>
<AVAILABILITY>030699</AVAILABILITY>
<PRICE>6.44</PRICE>
<AVAILABILITY>012099</AVAILABILITY>
<PRICE>2.44</PRICE>
<AVAILABILITY>031599</AVAILABILITY>
```

9. for $x in
doc("d:\anushka\plant.xml")/catalog/plant
where $x/zone < 4
return ($x/botanical , $x/availability)

```
<BOTANICAL>Aquilegia canadensis</BOTANICAL>
<AVAILABILITY>030699</AVAILABILITY>
<BOTANICAL>Dicentra cucullaria</BOTANICAL>
<AVAILABILITY>012099</AVAILABILITY>
```

10. for $x in
doc("d:\anushka\plant.xml")/catalog/plant
where $x/common = 'bloodroot'
return ($x/light , $x/price, $x/botanical)

```
<LIGHT>Mostly Shady</LIGHT>
<PRICE>2.44</PRICE>
<BOTANICAL>Sanguinaria canadensis</BOTANICAL>
```