

This exercise complements classroom discussion on XQuery.

1. List the members of your group below. Underline your name.
2. Consider an XML database suggested by the following excerpt of a file `ferndb.xml`:

```
<FernDB>
  <Fern>
    <CommonName>Ostrich Fern</CommonName>
    <BinomialName>
      <Genus>Matteuccia</Genus>
      <Species>struthiopteris</Species>
    </BinomialName>
    <HeightLow units="ft">2</HeightLow>
    <HeightUp units="ft">5</HeightUp>
    <Habitats>
      <Habitat id="woods"/>
    </Habitats>
    <FruitDate>
      <Month lang="en">June</Month>
      <Day>5</Day>
    </FruitDate>
  </Fern>
  <Habitat id="woods">
    Woodland areas.
  </Habitat>
  <Observation>
    <Date format="ISO">2012-06-01</Date>
    <Location>near shed</Location>
    <Fern>Ostrich Fern</Fern>
  </Observation>
</FernDB>
```

Write XPath queries for:

- (a) Common names of all ferns.
- (b) Binomial names of all ferns that fruit in June.
- (c) Common names of ferns in a “woods” habitat and a height consistent with 3 ft.
- (d) The first fern of the third observation.
- (e) Dates of observations with three or more ferns.

3. With the database of Question 2, write XQuery queries for:
- (a) A sorted list of all observation dates.

 - (b) A list, sorted by dates, of observation dates and locations (only).

 - (c) The binomial names of all ferns observed “near shed.”

 - (d) The common and binomial names of ferns that are listed in all observations “near shed.”

 - (e) The common and binomial names of ferns that are listed in all observations “near shed” in the year 2012.
4. (Homework) Experiment with XPath and XQuery using a suitable query engine, such as *Galax*. In particular, try the queries from this exercise and the textbook.