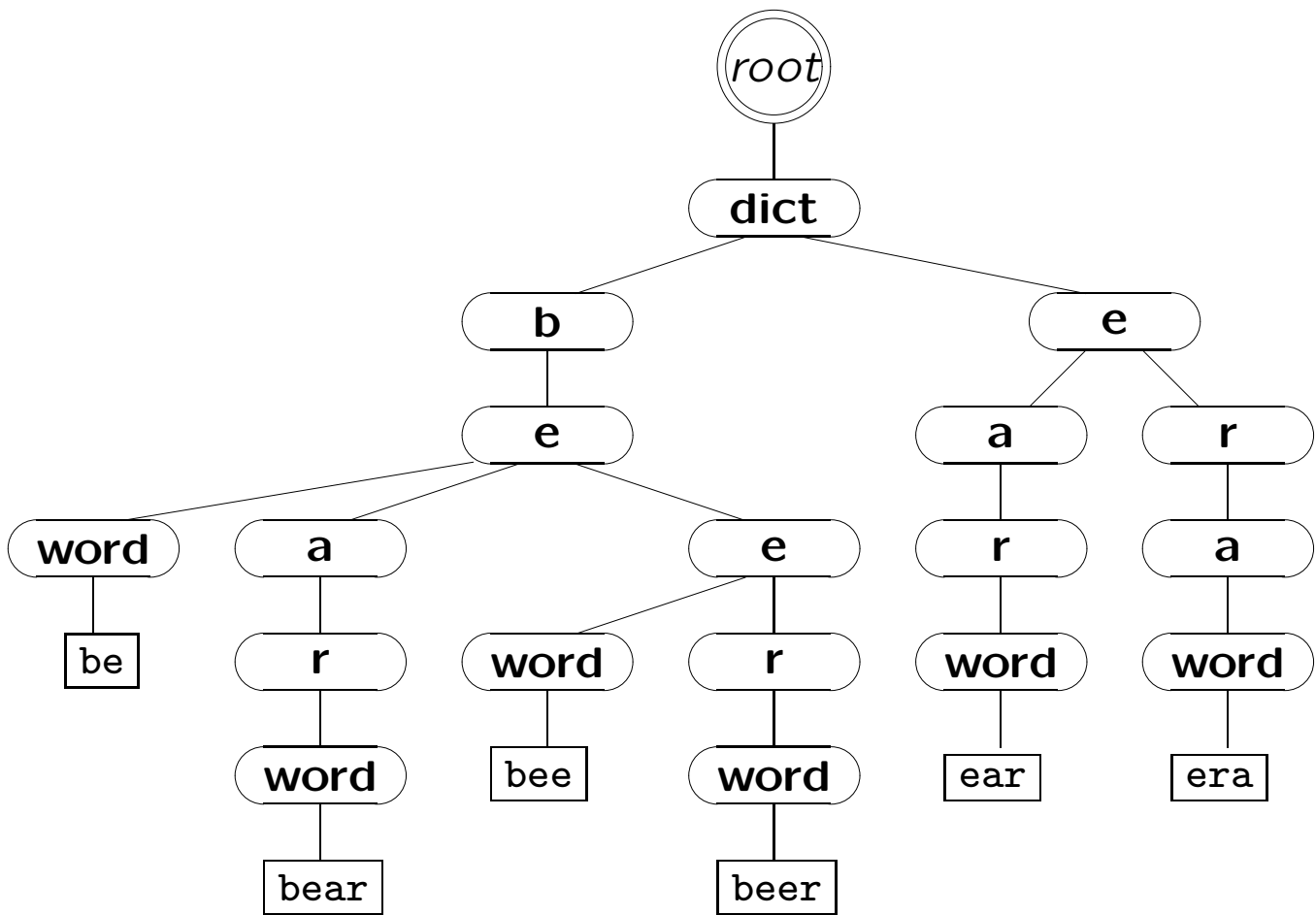


```
<?xml version="1.0" standalone="no"?>
<!DOCTYPE dict SYSTEM "dic.dtd">
<dict>
  <b>
    <e>
      <word>be</word>
      <a>
        <r>
          <word>bear</word>
        </r>
      </a>
    <e>
      <word>bee</word>
      <r>
        <word>beer</word>
      </r>
    </e>
  </b>
  <e>
    <a>
      <r>
        <word>ear</word>
      </r>
    </a>
    <r>
      <a>
        <word>era</word>
      </a>
    </r>
  </e>
</dict>
```



Question 1 Write a DTD that captures the intended trees.

Answer to Question 1.

```
<!ELEMENT dict (a?,b?,c?,d?,e?,f?,[...],x?,y?,z?)>
<!ELEMENT word (#PCDATA)>
<!ELEMENT a (word?,a?,b?,c?,d?,e?,f?,[...],x?,y?,z?)>
<!ELEMENT b (word?,a?,b?,c?,d?,e?,f?,[...],x?,y?,z?)>
<!ELEMENT c (word?,a?,b?,c?,d?,e?,f?,[...],x?,y?,z?)>
  [...]
<!ELEMENT z (word?,a?,b?,c?,d?,e?,f?,[...],x?,y?,z?)>
```

Question 2 Describe the result of the transformation of dic.xml using the following XSL stylesheet select.xsl:

```
<xsl:stylesheet version="1.0"
  xmlns:xsl=" [...]">
<xsl:output method="xml"/>

<xsl:template match="/">
  <HTML>
    <xsl:apply-templates select="//e//word"/>
  </HTML>
</xsl:template>

<xsl:template match="r//word">
  <BR/>
  <xsl:value-of select="."/>
</xsl:template>

<xsl:template match="word"/>

</xsl:stylesheet>
```

Question 3 Same question for:

```
<xsl:stylesheet version="1.0"
                xmlns:xsl=" [...] ">
<xsl:output method="xml"/>

<xsl:template match="/">
  <HTML>
    <xsl:apply-templates select=
      "//word[following-sibling::* / descendant::word] "
    />
  </HTML>
</xsl:template>

<xsl:template match="word">
  <BR/>
  <xsl:value-of select="."/>
</xsl:template>

</xsl:stylesheet>
```

Question 4 Same question for:

```
<xsl:stylesheet version="1.0"
                xmlns:xsl=" [...]">
<xsl:output method="xml"/>

<xsl:template match="/">
  <HTML>
    <xsl:value-of select=
      "//word[count(preceding::word)
              =
              count(following::word)]"
    />
  </HTML>
</xsl:template>

</xsl:stylesheet>
```

C:\Users\user\Documents\My5\N1\y\libus-bd2\XML\dic.xml - BaseX 8.6.7
 Database Editor View Visualization Options Help

Command ... Command...

C:\Users\user\Documents\My5\N1\y\libus-bd2\XML

Find contents...

dic.xml

1 doc("dic.xml")/word[following-sibling::* /descendant::word]

2 Results

Editor

1: 60

Result

<word>be</word>
 <word>bee</word>

Query Info

Total Time: 14.33 ms

Compiling:
 - pre-evaluate doc("dic.xml") to document-node()
 - rewrite descendant-or-self step(s)

Optimized Query:
 document-node ("dic.xml")/descendant::* /word[following-sibling::* /descendant::* /word]

Query:
 doc("dic.xml")/word[following-sibling::* /descendant::* /word]

Result:
 - Hit(s): 2 Items
 - Updated: 0 Items
 - Printed: 33 b
 - Read Locking: dic.xml
 - Write Locking: (none)

Time required: 14.33 ms

18:18
28-09-20