

Section 6

XML

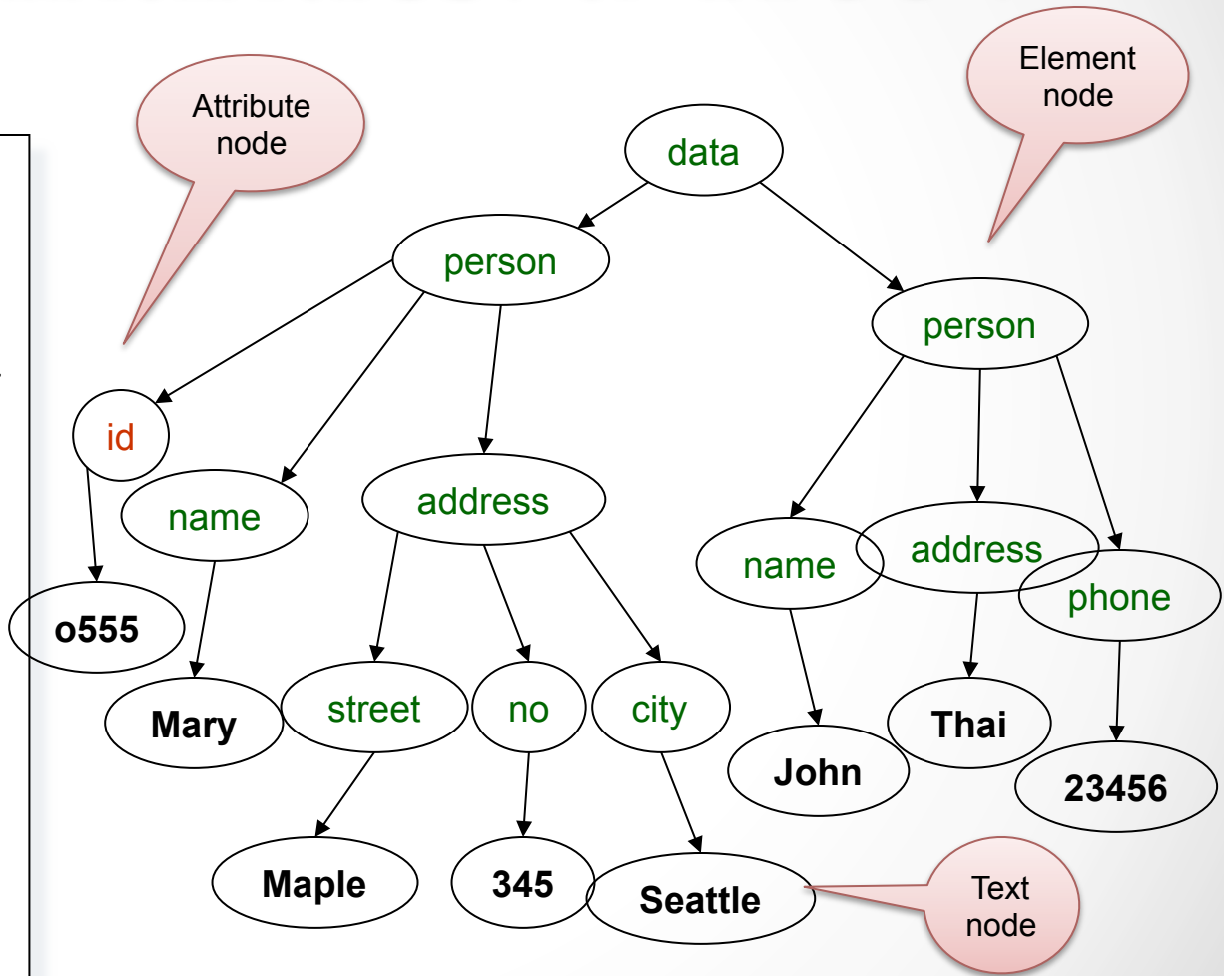


XML Syntax

```
<bibliography>  
  <book>  <title> Foundations... </title>  
          <author> Abiteboul </author>  
          <author> Hull </author>  
          <author> Vianu </author>  
          <publisher> Addison Wesley </publisher>  
          <year> 1995 </year>  
  </book>  
  ...  
</bibliography>
```

XML Semantics: a Tree !

```
<data>
  <person id="o555" >
    <name> Mary </name>
    <address>
      <street>Maple</street>
      <no> 345 </no>
      <city> Seattle </city>
    </address>
  </person>
  <person>
    <name> John </name>
    <address>Thailand
    </address>
    <phone>23456</phone>
  </person>
</data>
```



Attributes v.s. Elements

```
<book price = "55" currency =  
  "USD">  
  <title> Foundations of DBs </title>  
  <author> Abiteboul </author>  
  ...  
  <year> 1995 </year>  
</book>
```

```
<book>  
  <title> Foundations of DBs </title>  
  <author> Abiteboul </author>  
  ...  
  <year> 1995 </year>  
  <price> 55 </price>  
  <currency> USD </currency>  
</book>
```

Attributes are alternative ways to represent data

Comparison

Elements	Attributes
Ordered	Unordered
May be repeated	Must be unique
May be nested	Must be atomic

Saxon Setup

- Download Saxon

<http://sourceforge.net/projects/saxon/files/>

- Download Mondial dataset and DTD
- Make sure Java VM is installed

Practice with Saxon

- Open text editor and save a query:

```
<result>
    { Xpath expression }
</result>
```

- Run the program

```
$ java -cp saxon9he.jar net.sf.saxon.Query ex.xq > out.xml
```

- To pretty print

```
$ xmllint --format a1.xml
```

