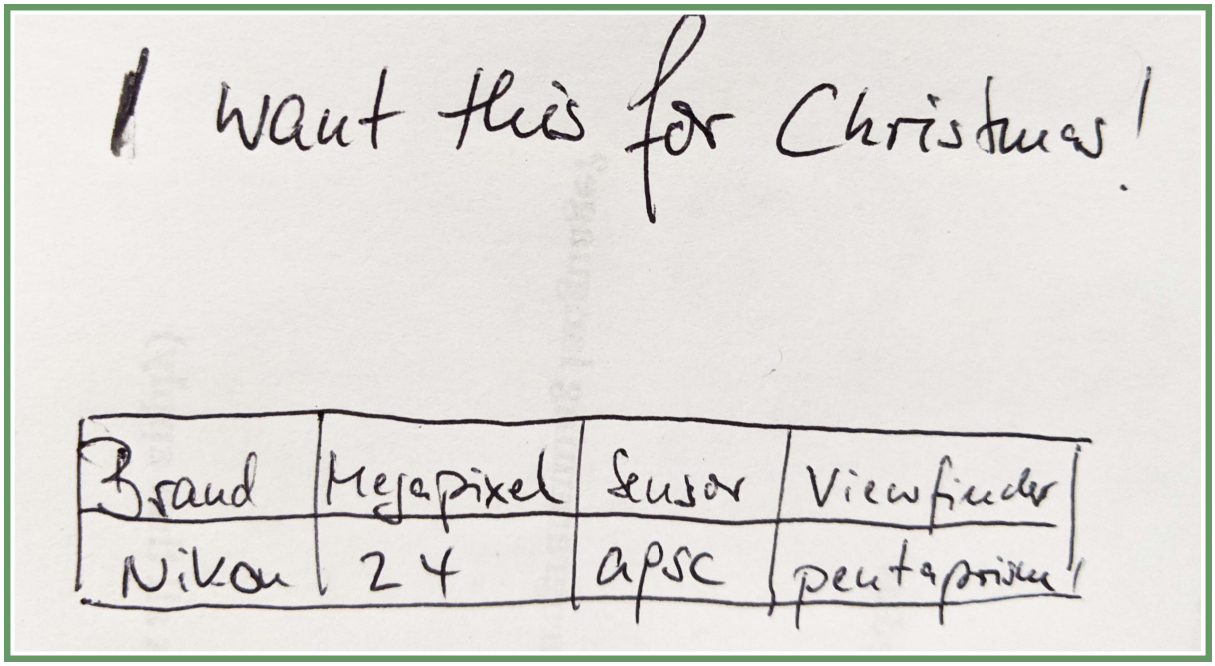
COP 4856 exercises

Consider the following (well-formed) XML expression and a corresponding XSLT fragment (next page), then draw a sketch how the result would look like on the screen.

```
<camera>
   <brand>Nikon</brand>
   <mp>24</mp>
   <sensor>apsc</sensor>
   <viewfinder>pentaprism</viewfinder>
</camera>
```

```
<xsl:template match="/">
   <html>
      <head>
         <title>I want this for Christmas!</title>
      </head>
      <body>
            <h1>I want this for Christmas!</h1>
            <table border="1" cellpadding="6"
                     cellspacing="3" width="30%" >
               <thead>
                  <tr>
                     <td>Brand</td>
                     <td>Megapixel</td>
                     <td>Sensor</td>
                     <td>Viewfinder</td>
                  </tr>
               </thead>
               <tr>
                  <td><xsl:value-of select="camera/brand" /></td>
                  <td><xsl:value-of select="camera/mp" /></td>
                  <td><xsl:value-of select="camera/sensor" /></td>
                  <td><xsl:value-of select="camera/viewfinder" /></td>
               </tr>
            </table>
      </body>
   </html>
</xsl:template>
```

Sketch goes here:



Rewrite this code with a prepared statement:

```
// assume bookId is set with a primary key for a Book
Statement stmt = conn.createStatement();
String sql = "SELECT * from Books " +
     "WHERE id = \"" + bookId +  "\"";
ResultSet rs = stmt.executeQuery(sql);
```

```
PreparedStatement stmt =
   conn.createPreparedStatement("SELECT * from Books WHERE id = ?");
stmt.setString(1, bookId);
ResultSet rs = stmt.executeQuery();
```

Provide annotations for JPA and JAXB to this POJO (you might have to add one field!). Assume that JAXB annotations are handled by field names.

```
@Entity
@XmlRootElement
public class Book {

    @Id
    private int id;



    String author;



    String title;



    int pages;
```

These are the headers for the doGet and doPost methods of a Servlet.

```
protected void doPost(HttpServletRequest request,
HttpServletResponse response) throws ServletException,
IOException

protected void doGet(HttpServletRequest request,
HttpServletResponse response) throws ServletException,
IOException
```

Write the important parts of a Servlet that

- reacts to both GET and POST requests the same way
- it extracts the "message" parameter value out of the request
- it produces HTML like this

```
<html>
   <head><title>Message of the day</title></head>
   <body>
      <h1>Message of the day</h1>
      <p>XXXXXXXXX</p>
   </body>
</html>
```

where XXXXXXXXX is replaced by the parameter value (Don't worry about HTML indentation!)

```
@Override
public void doGet(HttpServletRequest request,
       HttpServletResponse response)
       throws ServletException, IOException {
   response.setContentType("text/html");
   PrintWriter out = response.getWriter();
   String title = "Message of the day";
   out.println("<html><head><title>" + title +
       "</title></head>" +
       "<body>" +
          "<h1>" + title + "</h1>" +
          "<p>" +
          + request.getParameter("message") + "</p>" +
          + "</body></html>");
}

@Override
public void doPost(HttpServletRequest request,
       HttpServletResponse response)
       throws ServletException, IOException {
     doGet(request, response);
}
```