CSC440 HW#1 Solution

Problem 1

1 URL serves as a unique identifier for the Websites, so it is the key of the entity set Websites and it should be underlined.

2 For the subclasses Webstores and Personal Sites, they cannot have the key attribute-URL, because in the ISA hierarchy only the root entity set has a key and it must serve as the key for all entities in the hierarchy.

3 Each product belongs to exactly one product category, so the relationship between the produce and the category is “Many-One” and there should be a rounded arrow to the entity set category.

4 Each category has a unique ID which can uniquely identify the entity set category, so the entity set category is not a weak entity set and it should be represented by a single rectangle instead of a double rectangle.

5 “Each product has a unique ID, a description, and a price”, this English description does not mention that the product also has a name, so according to the “faithful principle”, name should not be an attribute of the entity set products.

6 Owner can not be the key for the entity set personal sites since an owner can have more than one personal site.
Problem 2

2.1

Path

Spreadsheet

Name

Compose

Worksheets

Row

Compose

Cell

Column

Value

2.2

Name

Database

Compose

Table

Compose

Field

Owner

Name

Description

Types

Problem 3
(1) Websites: URL is http://www.john.com/ and title is John's World
(2) Personal sites: Owner of the site is John and the biographical information is "John owns a poodle named Fred."

Problem 4
(4.1) (10 points) Submit the answers to the queries that you get in SQL*Plus.

Query 1: select * from coffees where cof_name like '%Decaf';
Meaning: Display all coffees with Decaf as the last part of the string (COF_NAME).
Result:

<table>
<thead>
<tr>
<th>COF_NAME</th>
<th>SUP_ID</th>
<th>PRICE</th>
<th>SALES</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colombian_Decaf</td>
<td>101</td>
<td>8.99</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>French_Roast_Decaf</td>
<td>49</td>
<td>9.99</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Query 2: select * from coffees where price > 8.00 and price < 9.00;
Meaning: Displays all coffees whose prices are between $8 and $9.

Result:

<table>
<thead>
<tr>
<th>COF_NAME</th>
<th>SUP_ID</th>
<th>PRICE</th>
<th>SALES</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>French_Roast</td>
<td>49</td>
<td>8.99</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Colombian_Decaf</td>
<td>101</td>
<td>8.99</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

(4.2) (8 points) Write a query to obtain the information on all coffees where the coffee name is “Espresso”. Submit your query and the answer to the query in SQL*Plus.

Query: select * from coffees where cof_name = 'Espresso';

Answer:

<table>
<thead>
<tr>
<th>COF_NAME</th>
<th>SUP_ID</th>
<th>PRICE</th>
<th>SALES</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Espresso</td>
<td>150</td>
<td>9.99</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

(4.3) (7 points) Write a query to obtain the information on all coffees where the coffee name has “Decaf” and the price is below 9.00. Submit your query and the answer to the query in SQL*Plus.

Query: select * from coffees where cof_name like '%Decaf' and price < 9.00;

Answer:

<table>
<thead>
<tr>
<th>COF_NAME</th>
<th>SUP_ID</th>
<th>PRICE</th>
<th>SALES</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colombian_Decaf</td>
<td>101</td>
<td>8.99</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>