Our ultimate goal is to design and develop an E-Commerce web site similar to Amazon.com. However, at this point we would like to create the data model for a simplified version of an E-commerce site. In later classes or perhaps on our own, we can expand this system to include more extensive capabilities.

Part I (Create an ERD-Entity Relationship Diagram)

Visit at least three E-commerce web sites (e.g., amazon.com, barnesandnoble.com, bestbuy.com) and observe the data requirements of these sites. You will soon find out that these companies obviously offer many products, they seem to categorize their products by categories (some products may actually fit multiple categories), these products may come from different vendors, in some cases the same product may come from multiple vendors, and often vendors provide several products to the e-commerce web site. Of course they also deal with customers (you), and before you purchase any items, you usually place your desired product in some sort of electronic shopping cart or bag. Some companies provide the ability to place items in a “wish list” to be purchased later, (or to share with friends and family so they can buy these items for you!!) In addition, some of these sites provide the customer with the ability to review the products and/or the vendors. Of course there are many other functions below the surface, but for now let’s reduce the scope of our problem (and its data model) to include the above.

Draw an ERD for the above e-commerce site. Show the entities, relationships, cardinality and ordinality of the relationships. Also show the associative entities.

Part 2 (Create the EAT-Entity Attribute Table)

Create an EAT table in which the column represent the entity names, and rows represent the attributes of each entity. Designate the primary key attribute with a (*) and the foreign key attribute with a (+) to the left of the attribute name. In the case of foreign key, also specify the entity to which the foreign key refers to (in parenthesis).

E.g.,  *Product-ID,  +Vendor-ID (Vendor)

**Extra credit: (50 points)**

Part 3 (Create the Database Schema)

Transform the ERD/EAT diagrams above into a series of tables in a relational database system such as MySQL or Microsoft Access.

Part 4 (Populate the Database)

Once the database schema (Structure) is constructed, load at least 2 records in each of your tables.

Part 5 (Query the Database)

Given the above database, develop 4 queries (questions) that you would like to ask such a system. Two of which must involve more than one table.

**Example queries:**

| List the vendors that sell a particular product. |
| Show the product review for a particular product |
| List the shopping cart items for a given customer |