INF1343, Winter 2012, Week 5 Exercises

Part 1. Diveshop

Write queries that would use the "diveshop" database to answer the following questions. Each question needs to be answered with *one* query.

- Where is Amanda Gentry going?

- What items are being shipped to Amanda Gentry? Did she buy or rent them?

- What is the most expensive item (by sale price) that is available through Diveshop?

- What is the most expensive item that has actually been bought? Who bought it?

- How much would it cost to travel to a place where a diver whose skill level is "Beginning" can see a fish called "Blue Angelfish"?

- What is the name of a customer from San Francisco who ordered a trip that might include a visit to the wrecked ship "Star of Scotland"? (You will need to join five tables. The correct answer is "Barbara Wright".)

When trying to answer those questions, you might find it handy to draw an ER diagram for the database first.

Part 2. Querying M's Database

Write queries that would answer each of the following questions using the database you built for M last week:

- What is the total value of gadgets currently in possession of agent 007?

- How many units of "X-ray glasses" have been lost by agent 007?

- How many gadgets were lost in all operations involving enemy "SPECTRE"?

If you did not complete the implementation of M's database last week, please do so now then return to this week's exercises.

Part 3.

Please answer the following questions.

- Would agent's code name (e.g., "007") be a good attribute to use as the primary key for the "agent" table in M's database? Explain.

- What is the difference between using "JOIN ON ...", "JOIN USING (...)" and "NATURAL JOIN"?

- Can any ER model be implemented as a relational database? Can any relational database be modeled using an ER diagram? If the answer to either question is "no", what would be an example?

- When we do a relational join, does it matter if the columns we use in the join condition form PK-FK pairs?