

G51DBS 2007/8 first assessed coursework (cw1)

Weighting: 5 % of the course mark.

Deadline: 29 February at 15:00, submit to the School office.

This coursework is based on last year's exam question.

Imagine that you need to design a database for an on-line wine shop. The shop sells bottles of wine. Each bottle has a price and a volume (for example, 0.75 l or 0.375 l) and contains wine. Each wine has a name, type (red, white or rose), year of production, grape variety, and a wine-maker. Each wine-maker has a name and comes from a particular region and country (for example, Bordeaux, France). The same wine-maker can make several different kinds of wine, and there can be several wine-makers in the same region. The same wine name can be used by several wine-makers, but the (wine name, wine-maker) combination is unique. You can also assume that a wine-maker's name is unique.

Some explanatory notes A wine is something like:

- name: Brown Brothers Merlot
- type: red
- year of production: 2004
- grape: Merlot
- wine-maker: Brown Brothers

A Brown Brothers Merlot made in 2004 is a different wine from a Brown Brothers Merlot made in 2005. Brown Brothers will make other kinds of wine as well, for example Brown Brothers Tarrango and Brown Brothers Cabernet Sauvignon. In the example above, the wine name is not going to be used by any other wine maker because it already includes the Brown Brothers' name. On the other hand, a wine can have a generic name like 'Table wine'. Wines with such a name can be produced by several different wine makers. So there could for example be two different wines: (Table Wine, red, 2005, Primitivo, Casa Girelli) and (Table Wine, red, 2005, Valpolicella, Cavini).

1. Draw an entity-relationship diagram corresponding to the text (it has to be neat and tidy to get full marks).
2. Describe the tables for the wine-shop database (names of tables, column names, types of values for each attribute). You can give them in SQL if you like, but don't have to.
3. What are the candidate keys in the tables for the wine shop?
4. What are the foreign keys in the tables for the wine shop?