

Chapter 4 Data Normalisation - Performin' Pups 2nf Ex 2

Step 2: Eliminate redundant data

If an attribute depends on only part of a multi-valued key, remove it to a separate table.

Hint

In the trick table, the primary key is made up of the puppy_number and the trick ID. This makes sense for the "Where Learned" and "Skill Level" attributes, since they are different for every puppy/trick combination. But the trick name depends only on the trick ID. The same name will appear redundantly every time its associated ID appears in the trick table.

Suppose you want to reclassify a trick; that is, give it a different trick ID. The change must be for every puppy that knows the trick. If you miss some, you'll have several puppies with the same trick under different IDs. This is an **update anomaly**.

Or, suppose the last puppy knowing a particular trick is eventually sold. His records will be removed from the database and the trick will not be stored anywhere. This is a **delete anomaly**.

To avoid these problems, you need a second normal form. To achieve this, separate the attributes depending on both parts of the key from those depending only on the trick ID.