**Relations and Associations Mismatch**

In object-oriented programming languages like java, associations are a key feature. In the real world, a shopping basket is a collection of items; a car has properties such as registration, make and model, and specific engine; Trade has an instrument, volume, and maturity data. In java, these relationships are all expressed as some form of association. Normally, we do expect a very rich set of association in a Java application.

The good thing is that these associations are supported by relational databases to some extent. The *foreign* key referring to a primary key of another table is the way of expressing an association in a relational schema.

However, object models (in java) exhibit not just one but three types of associations: **one-to-one, one-to-many (or many-to-one), and many-to-many.** Converting these associations to a foreign key/primary key association is a challenging task, although not impossible.

The birth of ORM tools was not accidental; they were born out of necessity. Bridging the gap between the object and relational models was a laborious process that posed numerous challenges. ORM tools such as Hibernate were developed to automate the object-relational persistence strategies.