**Multiplicity**

Multiplicity refers to how many of the specific objects are related to how many of the other target objects. We all may have one bank account, or more, or even none. Our neighbor may have one or more children (or none).

Whenever we are working with associations and relationships, we must think of them from the multiplicity angle too. Let’s revisit the example of a car and its engine. Every car has an engine, and each belongs to one car. In simple words, this statement translates to “one” car has “one” engine. So, here the multiplicity is expressed as *one-to-one* association.

Consider another example: a simplistic movie may consist of several actors. Here, as “one” movie consists of “one or more (i.e., many)” actors, the multiplicity is expressed as *one-to-many* association*,* (*ideally* these actors would act in other movies, making it making it *many-to-many,* but for our example, we ignore that fact!).

The last one of the multiplicity associations is *many-to-many:* a student can enroll in many (zero or more) courses, while each course can consist of *many* students. In this context, many means zero, one, or more (not necessarily a large number).

So in essence, there are three types of associations, as shown in Table:

