

## Module 7 Problem 4

### Consistency errors

#### 1. Redundant FK Rule violation

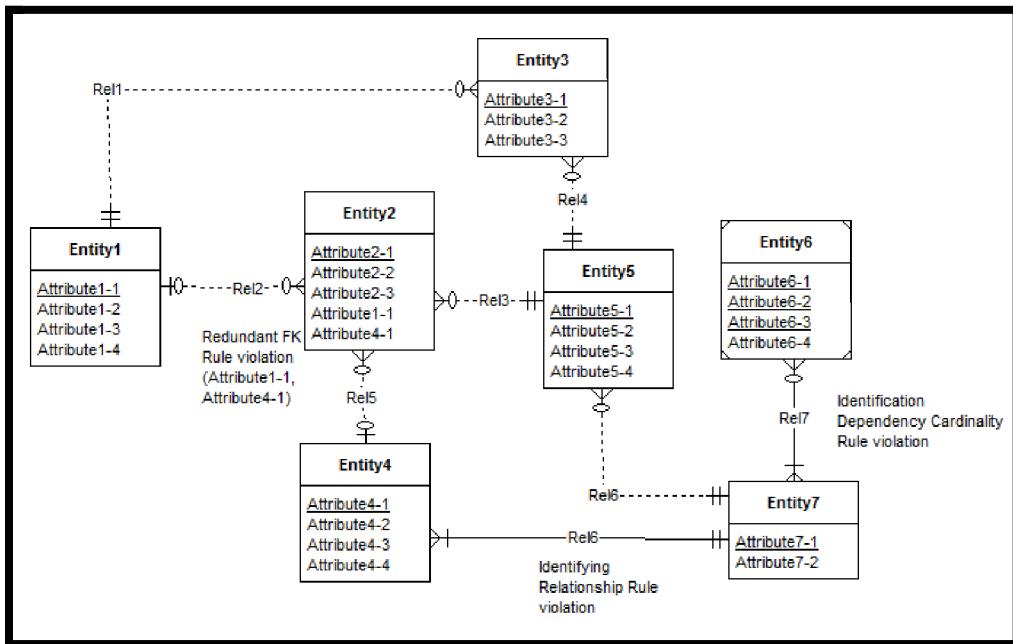
In *Entity2 Attribute1-1* and *Attribute4-1* are primary keys of *Entity1* and *Entity4* respectively and thus are foreign keys in *Entity2*.

#### 2. Identification Dependency Cardinality rule violation

The minimum and maximum cardinality of weak entity, *Entity6*, must be one (i.e., towards the side of the strong entity, *Entity7*) in *Rel7*.

#### 3. Identifying Relationship Rule violation

*Rel6* between *Entity4* and *Entity7* is an identifying relationship but does not have any weak entity associated with it.



ERD stating the consistency errors

## Resolution of errors

### 1. Redundant FK Rule violation

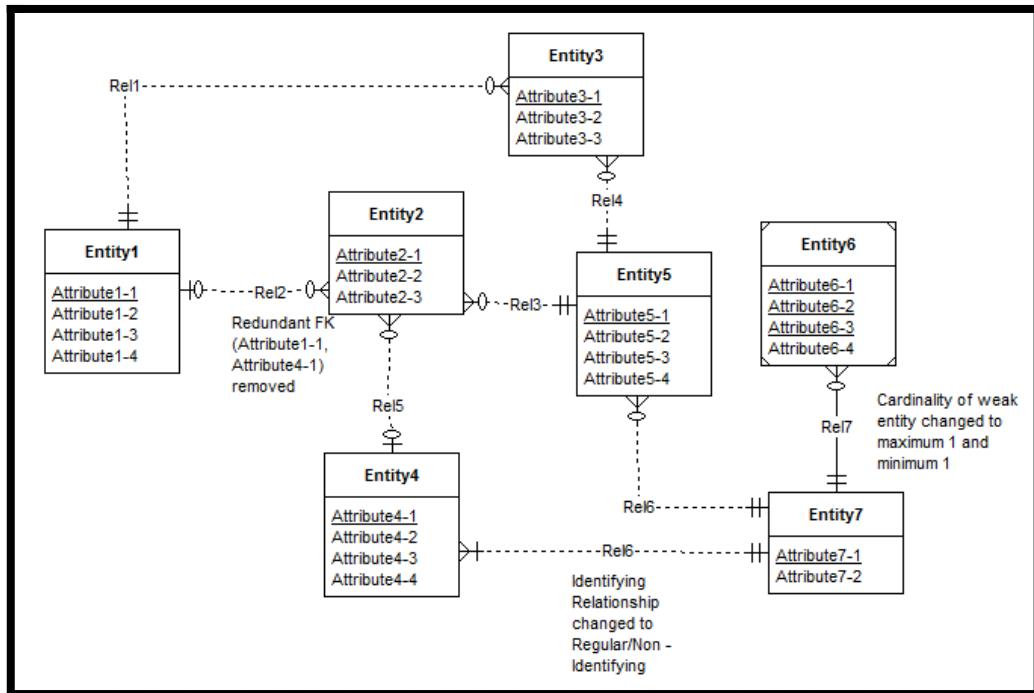
In *Entity2 Attribute1-1* and *Attribute4-1* are removed.

### 2. Identification Dependency Cardinality rule violation

The problem can be resolved by changing the *Entity6* cardinality in *Rel7* to (1,1).

### 3. Identifying Relationship Rule violation

The problem can be resolved by adding one or more weak entities or making the relationship (*Rel6*) between *Entity4* and *Entity7* non-identifying. Here, it is resolved by making the *Rel6* between *Entity4* and *Entity7* non-identifying (or regular type).



ERD stating the resolution of consistency errors