

# DNA Assignment 2

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## Analysis:

We performed thorough analysis of the requirements documents by the given team and found the following discrepancies and corrected them accordingly.

## Weak Entity: Division & Winners:

Although the **Division** and **Winners** entity types are mentioned as weak entity types in the requirements, we observe that there is no identifying relationship type. The attribute mentioned in the division entity type is mentioned as foreign key but we cannot find any other entity type having that attribute as primary key which violates the definition of foreign key. Also, nothing is mentioned about how to uniquely identify a division entity from its identifying relationship.

To correct the above discrepancies, we adopt the following convention:

1. We add a new attribute in the Division entity type called Telephone number which will be the foreign key of this entity type. This will be used to uniquely identify a division entity as a participant cannot belong to multiple division numbers.
2. We add a new attribute in the Winners entity type called Edition which will be the foreign key of this entity type. This has been added as Position has only 3 values and thus it cannot be a foreign key as the attribute is not present in any other Entity and it is not unique. The Edition attribute has been added as The weak entity Winner participates in the Resulted in Relationship.

## Foreign Key is not present in another Entity Type :

The **Newsletter Subscriber?** Attribute is given to be a foreign key and it is not present in any other entity and thus cannot be a foreign key.

## Min,max ratio given wrong :

Participants **belonging to** Division are given to have a min,max ratio of (1,1) with cardinality ratio (N,1). This has been corrected to Participant (1,N) and Division (1,1).

### **NOT NULL Constraint not mentioned :**

In the Participant entity, NOT NULL constraint is not mentioned in the First name Attribute.

### **Other Discrepancies:**

There is no Non-Trivial primary key in the Competition Entity and Category entity:

In the Competition Entity, the primary key is mentioned to be the (Location,Edition). But all the attributes of the Entity are mentioned as the primary key which is trivial as entities in an entity are bound to be unique.

In the Category Table, only one attribute is present which is Category name which is also the primary key which makes it trivial again.

