

PROJECT PHASE-3

Team 4

EDITS:

1. Removed **TYPE** attribute from MANAGEMENT
2. changed attribute Type of Gender(s) Involved in SPORTS from Multi-valued to Simple Initial Domain

Initial Domain	Changed Domain
Men	Men
Women	Women
Men+Women(Multi)	Mix

ASSUMPTIONS & EXPLANATIONS:

1. Some of our sub-classes has only one attribute which is also multi-valued. While making relational model, we only added one new relation containing Primary Key of superclass, previous multi-valued attribute (both together form primary key of the new relation) as attributes instead of adding two following relations
 - a. relation with primary key of superclass as only attribute
 - b. relation with Primary Key of superclass, previous multi-valued attribute (both together form primary key of the new relation) as attributes.

Eg: subclass 'security team' was changed to relation with Team_id, protocol as attributes (where both together form primary key) instead of adding two relations.

2. 1NF:
By following the 7 steps mentioned in the textbook to

convert the ER diagram to the relational model, We have removed all multi-valued and composite attributes. There are no nested relations too; So, Our 1NF is same as the relational model diagram.

3. 2NF:

Our 1NF relational model doesn't have any non-prime attributes which are not fully functionally dependent on prime-attributes in their respective relations. Also, tables with a single candidate key won't violate fully functional dependency, as the single key can't have any proper subsets; So, our 1NF model also becomes 2NF.

4. 3NF:

Our 2NF relational model doesn't have any transitive dependencies, so, our 2NF relational model is also 3NF.

Conclusion:

Our relational model is already in 1NF, 2NF and 3NF, as shown in the diagram below.

