SECURITY DATABASE

Part 1.

ENTITIES:

- USER_ACCOUNT
- USER_ROLES
- ACCOUNT_PRIVILEGES
- RELATION_PRIVILEGES
- PRIVILEGE
- TABLES.

RELATIONSHIPS:

1. USER_ACCOUNT entity **HAS** USER_ROLES.
2. There are **OWNER_OF** relationship between USER_ACCOUNT and USER_ROLES entity.
3. The relationship between USER_ROLES, TABLES and RELATION_PRIVILEGES is **RELATED.**
4. USER_ACCOUNT entity **PROVIDE** PRIVILEGES entity.
5. ACCOUNT _PRIVILEGES **HAS** USER_ROLES entity.

ATTRIBUTES:

Entity- USER_ACCOUNT

Attributes:

- User_IDNO : Primary Key, unique Id number of user.
- Name : String consisting of an single initial and last name
- Phone: String consisting of 12 characters
- Role_Name: Foreign Key, Role name of user.

Entity- USER_ROLES

Attributes:

- RoleName: Primary Key, Role name of user.
- Description: Describes the user role name.

Entity- ACCOUNT_PRIVILEGES

Attributes:

- RoleName: Foreign Key, Role name of user.

Entity- RELATION_PRIVILEGES

Attributes:

- RoleName: Foreign Key, Role name of user.

Entity- PRIVILEGE

Attributes:

- Select_Privileges: User has select privileges
- Update_Privileges: User has update privileges
- Create_Privileges: User has create privileges
- Delete_Privileges: User has delete privileges
- User_IDNO: Foreign Key, Id number of user

Entity- TABLES

Attributes:

- TableName: Name of Table
- User_IDNO: Foreign Key, Id number of user
- Role_Name: Foreign Key, Role name of user.

MULTIPLICITY :

1. USER_ACCOUNT and USER_ROLES have **N:1** multiplicity
2. USER_ACCOUNT and TABLES entity have **1: N** multiplicity
3. USER_ACCOUNT and PRIVILIGES have **1: N** multiplicity
4. ACCOUNT_PRIVILIGES and USER_ROLES have **N:1** multiplicity
5. Entities USER_ROLES, TABLES and RELATION_PRIVILIGES have **1: N** multiplicity.

ASSUMPTION:

- The entity ACCOUNT_PRIVILEGES & RELATIONAL_PRIVILEGES will have Role_Name.
- The USER_ACCOUNT will have additional column Role_Name (F.K) ref to USER_ROLES. Role_Name.