**Relational Schema**

Employee(Employee\_ID, name, Department\_ID, Team\_ID)

Department(Department\_ID, Department\_Name)

Team(Team\_ID, Team\_name, Employee\_ID)

Login(Login\_ID, password, Employee\_ID)

Reserves(Login\_ID, room\_no, date, meeting\_type, start\_time, end\_time, Employee\_ID, building\_no)

Room(Room\_no, capacity, av\_equipment, building\_no)

Building(building\_no, building\_name, location)

Explanations for each relation

1. Employees must work in only one Department and must be part of a team. This relation is many to one employees with total participation from Employee side. Employee\_ID is the Primary Key of table Employee. department ID and Team\_ID are foreign keys referencing respectively Department table and Team table.
2. Each Team must be leaded by an Employee. This is a many to one relationship with total participation on the Team side.

Team\_ID is the primary key and Employee\_ID becomes a foreign key in the Team table referencing Employee.

1. Each Login must belong to at most one Employee. This is a many to one relationship with total participation on the Login side.

Login\_ID is the primary key of relation Schema then Employee\_ID is a foreign key referencing Employee table.

1. Login can reserve multiple rooms. This is a binary many to many relationship
2. Reserves is a cross reference relation in a binary relationship many to many. Login\_ID, room\_no, Employee\_ID, and building\_no become the full primary key for Reserves.
3. room must be tied to a building. This is a many to one relationship with total participation on the Room side. Room\_no is the primary key of the relation schema and building\_no becomes a foreign key in the relation schema referencing Building.