

# DBMS:

## LAB 5

### DDL (Data Definition Language) Commands

#### University Fest Management System

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#### STATEMENT:

In the dynamic and vibrant atmosphere of a university, annual fests are the pinnacle of creativity, innovation, and community engagement. In order to streamline the process of organizing and managing these fests, a comprehensive University Fest Management System is to be designed for the university. This system aims to store the information related to the fests hosted by the university and all the information related to that particular university as given below.

Fests are organized in the university multiple times a year, and each fest bears a **distinctive name**, ID which helps in the unique identification of the fest, and the corresponding year it was hosted. These fests are managed by multiple teams, but a single team is entrusted with the leadership role of heading the fest's execution.

As described above several teams are involved to make the fest a success. Each team is uniquely identified by a Team ID. It also would have the details regarding the team name, the number of members in the team, and the team type. **Each team could be one of two types: management team denoted as "MNG" or an Organising team denoted as "ORG".** The management team is in charge of taking care of various responsibilities like leadership roles for the entire fest, finance, and event conduction, sponsorship, coordination, etc. whereas the organization team would host events that are conducted during the fest. Remember that the management team would not organize any events but rather only take care of the management. **By default, the team would be considered an organizing team.**

Every team would have a group of members who bring their expertise to the table for carrying out the necessary work. Each member possesses a unique member ID, name, date of birth (DOB), and age. Except for the team head, each member of the team would be headed by (or report to) another member of the same team.

The heart of any fest lies in its diverse range of events. The "ORG" teams would organize a lot of events for the fest. Each event is characterized by a unique event ID, event name, venue, date of conduction, and the price which the participants shall pay to take part in it. The venue should contain details about the block, the

floor, and the room number where the event is conducted. The same event can be conducted on several days. Note that the price of any event should not exceed 1500 rupees.

Participants would play a pivotal role in the fest ecosystem. They are the ones who would be taking part in various events. The system captures essential information about participants like gender, name, student registration number (SRN), department, and semester. Participants can have certain friends or family members (Visitors) who could attend the fest. They would be associated with a person who is taking part in the events. For every visitor, details like gender, name, and age shall be stored.

Only participants can register for any number of events (or not register for any event also). For every event that the participant would register he/she would get a registration number with which he/she can gain entry during the day of the event conduction. Remember that more than one participant could have the same registration number if the event they have registered is a group event (meaning participants would take part as a group and not individually).

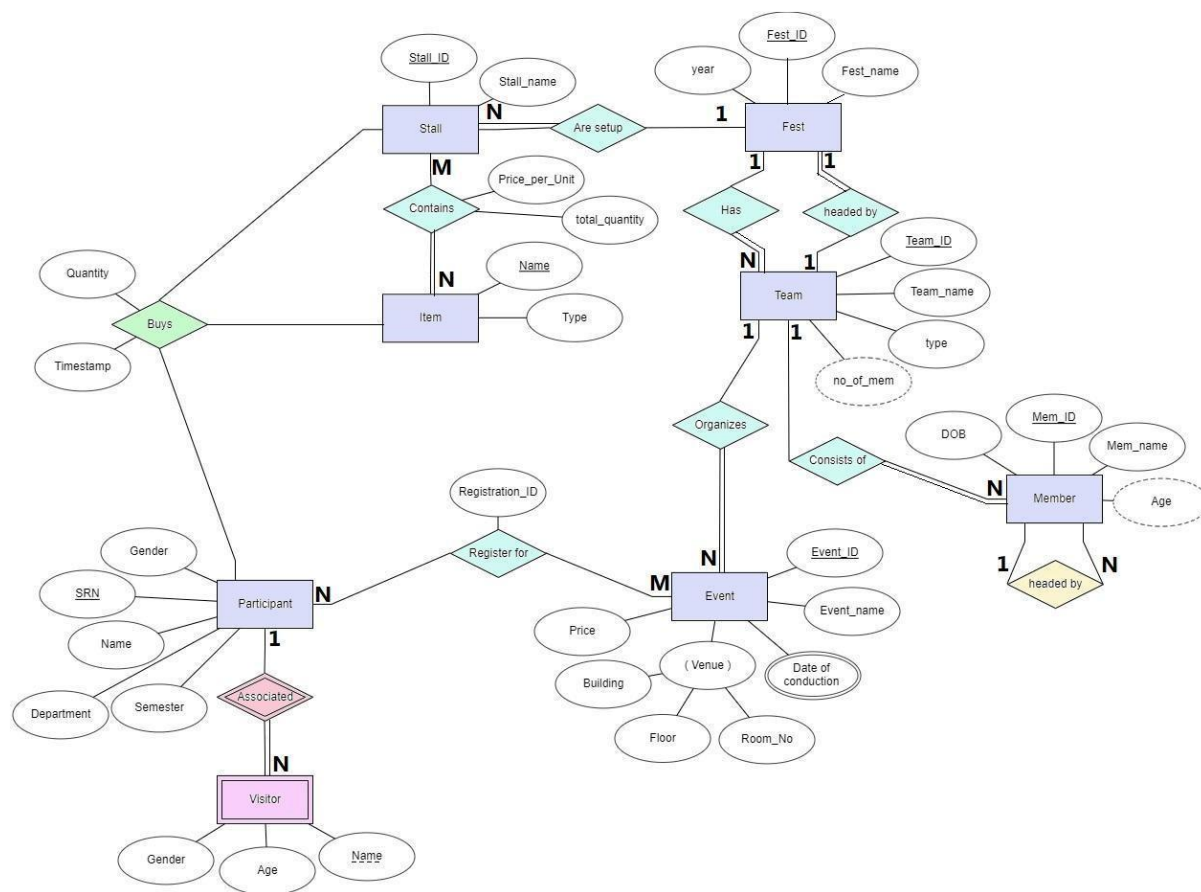
A bustling fest is incomplete without stalls offering a wide array of items. Stalls are known for their unique names and IDs associated with them. They are central to fest commerce. These stalls provide participants with diverse items, each bearing a unique name, and type (Veg or Non-veg). Participants could buy items from a particular stall in any quantity and pay the amount. Remember the same item might be sold in multiple stalls with different prices. A record of the total quantity for every item a stall has is also to be maintained. Remember that a participant can buy the same item from the same stall (even in the same quantity) on multiple occasions (at different times).

To ensure smooth operations, the fest management system employs a tiered access system. The Administrators possess comprehensive control over the system, enabling them to read, write, and update all relevant information. The database to be designed is used by many users like the team heads who would have the authority to access and update event details, focusing on their specific responsibilities. The people who have set up the stalls can only edit the various items present and their corresponding prices. The participants, while being integral to the fest, are granted read-only access, ensuring a seamless flow of fest-related information that includes event information and the food items offered by various stalls.

**For the above-given description, one of the possible ER diagrams and the RELATIONAL SCHEMA have been given below:**

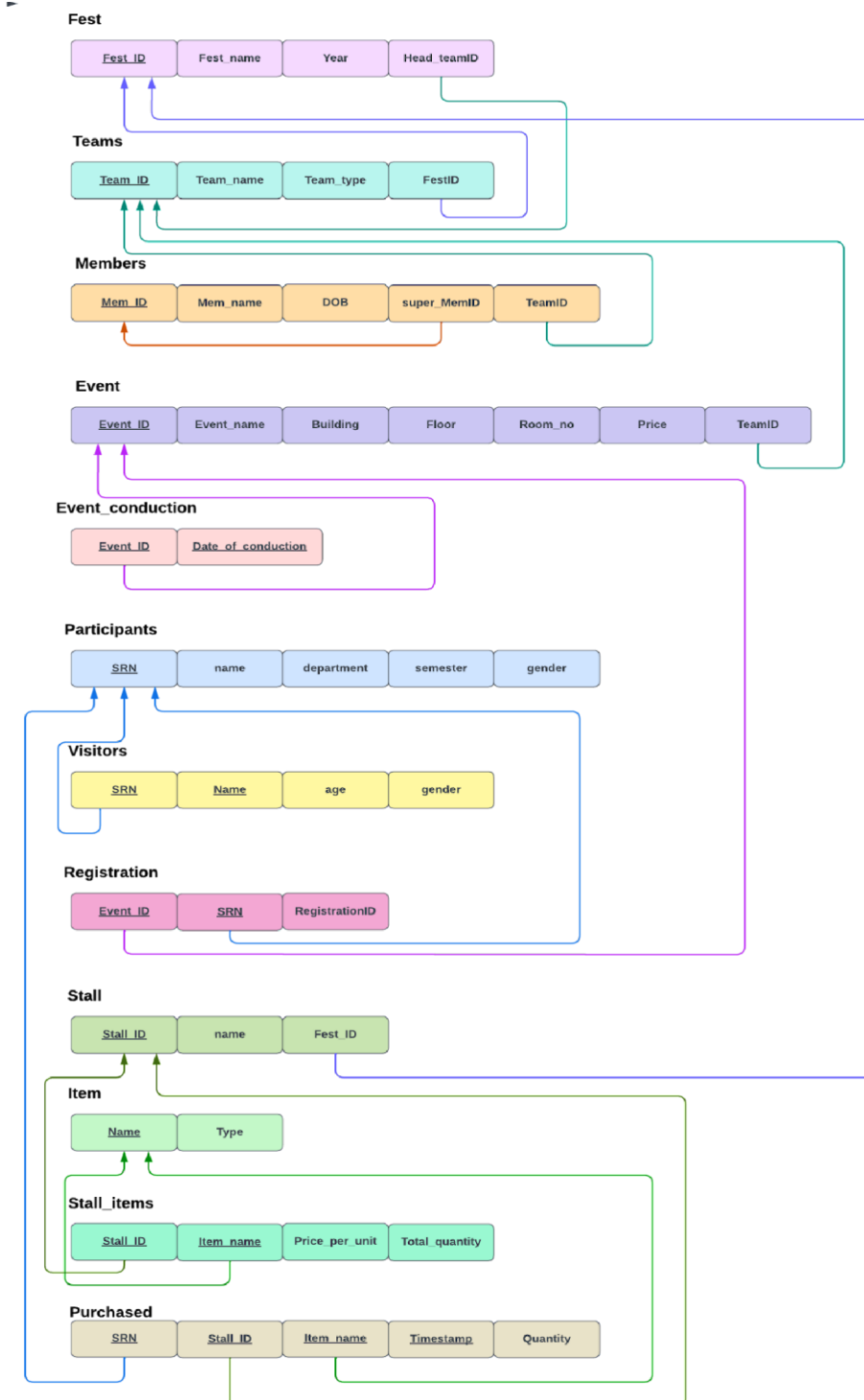
## ER Diagram:

The E-R diagram for the above description would be:



## RELATIONAL SCHEMA:

The relational schema for the above E-R diagram:



.....

# SOLUTIONS :

## TASK 1:

Identify all the constraints (domain, key, constraint on null, primary key, foreign key and check etc) based on the ER and description given and execute the DDL commands for University\_fest database.

Add all the screenshots of sql command and desc table.

## TASK 2:

1. **Modify the datatype of the gender attribute to make sure that the only values that can be stored are M: for male, F: for female, and O: for other. Also, make sure that the gender attribute is positioned after the "name" column.**

Before: --describe the table/s

Command – sql command

Afer: --describe the table/s

2. **Every stall would offer items for different prices, it is found in the previous fests that the price of most of the items was 50. Therefore as a DB designer, set the default value of the prices of items to be 50 rupees and also make sure that every item has a price associated with it meaning we cannot have a null value entered into the price.**

Before: --describe the table/s

Command – sql command

Afer: --describe the table/s

3. **Considering that the stalls have a limited space for storing the various items they sell, create a max\_stocks condition that ensures that a particular stall can at max have 150 units of each item that they sell.**

Before: --describe the table/s

Command – sql command

Afer: --describe the table/s

- 4: **Rename the table “Event\_conduction” to “Event\_schedule”**

Before: --describe the table/s

Command – sql command

Afer: --describe the table/s

- 5: **Move the column "Date\_of\_conduction" such that it's the first column**

Before: --describe the table/s

Command – sql command

Afer: --describe the table/s

### **Task 3: Few questions for you to answer:**

1: Which is the sql command to know the current database?

`SELECT DATABASE();`

2: Which is the sql command to clear the command prompt?

No direct command to clear .

3: Can you rename the database in MySQL?

`CREATE DATABASE NewDB_Name;`

`RENAME TABLE OldDB_Name.TableName TO NewDB_Name.TableName;`

`DROP DATABASE OldDB_Name;`

4: What is the command to drop a table?

`DROP TABLE Tablename;`

To delete a table from the database:

5: Specify the difference between drop table and truncate table?

DROP TABLE:

1. Removes Everything: It deletes the entire table
2. Can't Be Undone: Once you drop a table, it's permanently deleted .
3. Deleting row by row takes time...

TRUNCATE TABLE:

1. Empties the Table: It removes all the data inside the table but keeps the table itself and its structure intact.
2. Faster Operation: Truncate is quicker
3. It is efficient for clearing out large tables....

6: Can a table have more than one primary key?

No

7: Can a foreign key value be null?

Yes

8: Can a primary key value be null? If not which constraint is violated?

No, if you try to insert a NULL value, the NOT NULL constraint is violated.

9: Upon describing the table using the command “desc tablename” what information about the table is given.

The DESC table name command shows details about each column in the table, including:

1. Column Name: The name of the column.
2. Data Type: What kind of data the column holds (like text or numbers).
3. Nullability: Whether the column can be empty (NULL) or not.
4. Key Info: If the column is used as a key (like a primary key or foreign key).
5. Default Value: The default value set for the column.
6. Extra Info: Any additional details like if the column auto-increments.

10: Can I change the primary key of a table? If yes how?

Yes , we can .

Firstly remove primary key and add the new primary key.