Assignment 4

→ Problem Statement

Design & develop database for order management system with all constraints.
(There must be 3 entity relationships between them).
Apply DML & DCL commands to convert the diagram into table.

→ Theory :

A] Concept of ER diagram :

A database can be modified as a collection of entities & relation among the entities.

- Entity Set :

It is a set of entities of some type that share the same properties.

- Attributes : Entities have attributes.

i. Simple Attributes : Ex : Roll no.
ii. Composite Attibutes : Ex. Name → First Name, Last Name.
iii. Single Valued : Ex Roll no.
iv. Multivalued Attribute : Ex. Phone Number.

- Relationship Set: A relationship is associated among several entities.

A relationship set is a mathematical relation among $n \geq 2$ entities each taken from entity sets.

- Mapping Cardinalities:

Expresses the numbe of entities to which another entity can be associated via relationship set.

B] SQL Commands:

- DML (Data Manipulation Language)
- DDL (Data Definition language)

1. Create a Table:

```
Create table_name (colname datatype,
                   colname datatype,
                   ... );
```

---

2. Alter Table:

```
Alter tablename Add new-colname datatype;
```

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3. Drop Table :

Drop table tablename ;

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c] Integrity Constraints

1. Data Integrity :

Entering data ~~integrity~~ ensures equality of data in database. No duplicates in the database.

2. Domain Integrity :

It is valid entity for a given column. (The datatype should match)

3. Entity Integrity :

Defines rows as a unique entity to a particular task.

4. Primary Key Integritiy

Primary Key Integrity of a relational table uniquely identifies each record in the table.

5. Not Null Constraints :

~~The primary key~~

It ensures that no null values are entered in the table.

6. Unique Constraints :

It ensures that there are no duplicates in the table.

→ Conclusion :

Topics Covered :

1. ER Diagram.
2. SQL Statement.
3. CRUD Operations.