1. Table : ~~order~~ Employee

E_ID	E_age	E_Address	E_phone	Emp_State
1	27	Bengaluru	P_1 P_2	KA
2	26	Mumbai	P_1	MH
3	26	Jaipur	P_1 P_2	
4	25	Ranchi	P_1	

In 1NF we shouldn't contain multivalued attributes in above table e_phone is multivalued attribute, so we need to create seperate row for each value.

*In 1NF we shouldn't contain composite attribute. So we need to split the values with different column.

Empid	Empage	E_address	Emp_State	E_phone
1	27	Bengaluru	KA	P_1
1	27	Bengaluru	KA	P_2
2	26	Mumbai	~~KA~~ MH	
3	26	Jaipur	RJ	
3	26	Jaipur	RJ	
4	25	Ranchi	JH	

Here we remove the redundancy & table 1NF
Primary key :-> (emp_id, emp_phone)

2. Reduction of Redundancy: It contributes to effecient querying & data manipulation in several ways

a. Improve data consistancy
b. Optimal Indexing
c. Smaller table sizes
d. Simplified qualifier
e. Data Manipulation

3. A Functional Dependency is a relationship between 2 sets of attributes in a table.

* It specifies that values of 1 set of attributes, referred as dependent, attributes are determined uniquely by values of another set of attributes

Example: Table: Students

S_ID	Name	C_Id	C_name	Instructor
1	Alica	101	Math	prof X
2	Bobby	101	Math	prof Y
3	Chris	102	English	prof X
4	Dean	102	English	prof Y

* S_Id => Name
* C_Id => C_name, Instructor
* S_Id, C_Id => C_name

4. Indexing enhances the performance of DB tables by improving speed & effeciency of data retrieval, especially queries & Searches

3

5. There are 3 different ways of updating values.

a] Basic UPDATE:

```
UPDATE table_name
SET column1 = value1 ....
WHERE cond.^;
```

b] UPDATE table_name Using Subqueries:

```
SET Column = ( SELECT name from table_name
               WHERE cond.^) WHERE cond.^
```

c] UPDATE table_name1

```
SET table_name1. col1 = table_name2. col2
from table JOIN
tables ON table1. key-column = table2. key-col.^
WHERE cond.^
```

6. DELETE	TRUNCATE
* It is a DML command	* It is a DDL command
* It can use WHERE clause	* It can't use WHERE clause
* It is comparitively slow	* It is a faster
* It records the deleted rows in the transaction log	* Since it removes page where tables data is stored. it stores page in ~~different~~ transactional log
* Rollback applicable	* Rollback not applicable.