**DBMS Project**

**Final Report**

**Group Members:**

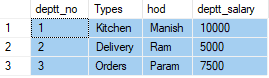
|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Name** | **Roll Number** | **Batch Number** |
| 1. | Pragya Datt | BT17GCS077 | B4 |
| 2. | Rupali Vyas | BT17GCS091 | B4 |
| 3 | Sanya Kapoor | BT17GCS098 | B4 |
| 4 | Pragya Kapoor | BT17GCS078 | B4 |
| 5 | Shaurya Srivastava | BT17GCS100 | B4 |

Project Title:

‘Pizza n Chill’

Relation Definitions and conversion into 3NF:

1) Department



‘HOD’ and the ‘department salary’ can be derived from ‘types’ as well as the primary key, ‘department number’. This table design is non-3NF compliant, and could, therefore, result in data anomalies.

Moving the additional dependent column to another table and referencing it using a foreign key would make it compliant. This would result in two tables:

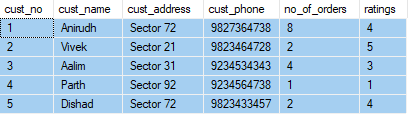
In the **Department table** below, ‘typeid’ is a foreign key to the **Types table**:

* Deptt\_no
* Hod
* Deptt\_salary
* Typeid

The new **Types table** will be as follows:

* Typeid
* Types
* Hod
* Deptt\_salary

2) Customer



All other attribites can be derived from ‘cust\_phone’ as well as the primary key, ‘cust\_no’. This table design is non-3NF compliant, and could, therefore, result in data anomalies.

Moving the additional dependent column to another table and referencing it using a foreign key would make it compliant. This would result in two tables:

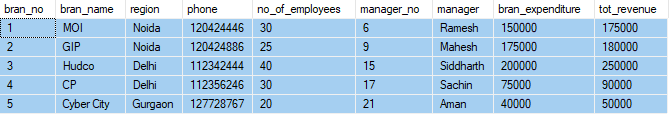
In the **Customer table** below, ‘cust\_phone\_id’ is a foreign key to the **Phone table**:

* Cust\_no
* Cust\_name
* Cust\_address
* No\_of\_orders
* Ratings
* Cust\_phone\_id

The new **Phone table** will be as follows:

* Cust\_phone\_id
* Cust\_phone
* Cust\_name
* Cust\_address
* No\_of\_orders
* Ratings

3) Branches



All other attributes can be derived from ‘phone’, ‘manager\_no’ as well as the primary key, ‘bran\_no’. This table design is non-3NF compliant, and could, therefore, result in data anomalies.

Moving the additional dependent columns to another table and referencing them using a foreign key would make it compliant. This would result in three tables:

In the **Branches table** below, ‘phone\_id’ and ‘manager\_id’ are foreign keys to the **Phone table** and **Manager table**:

* Bran\_no
* Bran\_name
* Region
* No\_of\_employees
* Manager
* Bran\_expenditure
* Tot\_revenue
* Phone\_id
* Manager\_id

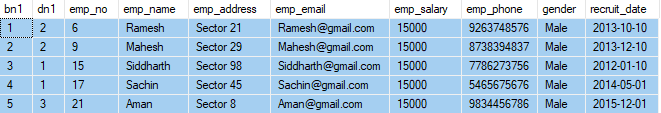
The new **Phone table** will be as follows:

* Phone\_id
* Phone
* Bran\_name
* Region
* No\_of\_employees
* Bran\_expenditure
* Tot\_revenue

The new **Manager table** will be as follows:

* Manager\_id
* Manager
* Bran\_name
* Region
* No\_of\_employees
* Bran\_expenditure
* Tot\_revenue

4) Employees



All other attributes can be derived from ‘bn1’, ‘emp\_phone’ as well as the primary key, ‘emp\_no’. This table design is non-3NF compliant, and could, therefore, result in data anomalies.

Moving the additional dependent columns to another table and referencing them using a foreign key would make it compliant. This would result in three tables:

In the **Employees table** below, ‘bn\_id’ and ‘phone\_id’ are foreign keys to the **Bn table** and **Phone table**:

* Dn1
* Emp\_no
* Emp\_name
* Emp\_address
* Emp\_email
* Emp\_salary
* Gender
* Recruitment\_date
* Phone\_id
* Bn\_id

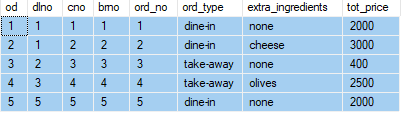
The new **Bn table** will be as follows:

* Bn\_id
* Dn1
* Emp\_name
* Emp\_address
* Emp\_email
* Emp\_salary
* Gender
* Recruitment\_date

The new **Phone table** will be as follows:

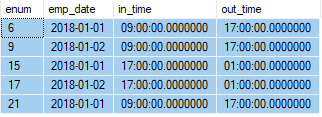
* Phone\_id
* Dn1
* Emp\_name
* Emp\_address
* Emp\_email
* Emp\_salary
* Gender
* Recruitment\_date

5) Orders



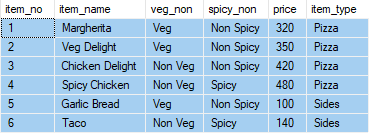
Already in 3NF because it is in 2NF (no PFD) and there does not exist any non-prime attribute that determines another non-prme attribute.

6) Employee\_Work\_Hrs



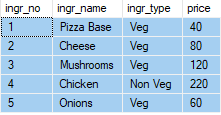
Already in 3NF because it is in 2NF (no PFD) and there does not exist any non-prime attribute that determines another non-prme attribute.

7) Food\_Items



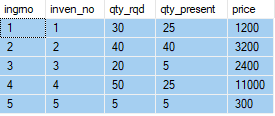
Already in 3NF because it is in 2NF (no PFD) and there does not exist any non-prime attribute that determines another non-prme attribute.

8) Ingredients



Already in 3NF because it is in 2NF (no PFD) and there does not exist any non-prime attribute that determines another non-prme attribute.

9) Inventory



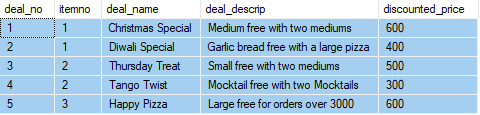
Was not in 3NF. Was converted and we obtained the same table. Thus, this is a case of BCNF and therefore, a violating FD will exist.

10) Deliveries



Already in 3NF because it is in 2NF (no PFD) and there does not exist any non-prime attribute that determines another non-prme attribute.

11) Deals



All other attributes can be derived from ‘deal\_name’ as well as the primary key, ‘deal\_no’. This table design is non-3NF compliant, and could, therefore, result in data anomalies.

Moving the additional dependent column to another table and referencing it using a foreign key would make it compliant. This would result in two tables:

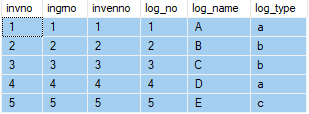
In the **Deal table** below, ‘dnameid’ is a foreign key to the **DName table**:

* Deal\_no
* Item\_no
* Deal\_descrip
* Discounted\_price
* Dnameid

The new **DName table** will be as follows:

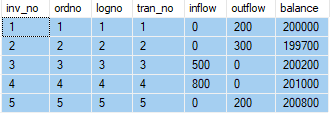
* Dnameid
* Deal\_name
* Item\_no
* Deal\_descrip
* Discounted\_price

12) Logistics



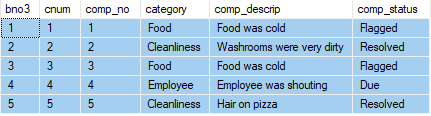
Was not in 3NF. Was converted and we obtained the same table. Thus, this is a case of BCNF and therefore, a violating FD will exist.

13) Finance



Was not in 3NF. Was converted and we obtained the same table. Thus, this is a case of BCNF and therefore, a violating FD will exist.

14) Complaints



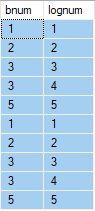
Already in 3NF because it is in 2NF (no PFD) and there does not exist any non-prime attribute that determines another non-prme attribute.

15) Have



Already in 3NF because it is in 2NF (no PFD) and there does not exist any non-prime attribute that determines another non-prme attribute.

16) Requires



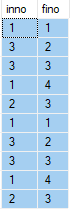
Already in 3NF because it is in 2NF (no PFD) and there does not exist any non-prime attribute that determines another non-prme attribute.

17) CompriseOf



Already in 3NF because it is in 2NF (no PFD) and there does not exist any non-prime attribute that determines another non-prme attribute.

18) Req



Already in 3NF because it is in 2NF (no PFD) and there does not exist any non-prime attribute that determines another non-prme attribute.

19) Deptt\_Delivery



Already in 3NF because it is in 2NF (no PFD) and there does not exist any non-prime attribute that determines another non-prme attribute.

20) Deptt\_Kitchen



Already in 3NF because it is in 2NF (no PFD) and there does not exist any non-prime attribute that determines another non-prme attribute.

21) Deptt\_Orders



Already in 3NF because it is in 2NF (no PFD) and there does not exist any non-prime attribute that determines another non-prme attribute.