DBMS-LAB Assignment-6

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19BCS103

1) Table 1

This not not in 1NF because 'course' attribute contains more than one ~~attribute~~ value

~~Prime key:~~
Primary key :- Id
Candidate key: Id and Course
Prime key :- Id and Course
Non Prime Key :- Name, Age, Location

Id	Name	Age	Location	Course
1	Sachin	22	Delhi	OS
1	Sachin	22	~~Jamshedpur~~ Delhi	DBMS
2	Ram	22	Jamshedpur	DAA
2	Ram	22	Jamshedpur	DBMS
3	Mike	23	Chennai	ML
3	Mike	23	Chennai	OS
4	Sameer	21	Bengaluru	DAA
4	Sameer	21	Bengaluru	ML
5	Vijay	22	Mumbai	ML
5	Vijay	22	Mumbai	DBMS

Table 2:-

This Table is already in 1NF because it does not contain multivalued attribute.

Primary Key:- ID
Candidate Key:- ID
Prime Key:- ID
Non Prime Key:- Name, Phone, State, Country

So, the table is same as given in the question.

2) Table 1

→ This table is already in 1NF because it does not contain multivalued attribute.

→ This table is not in 2NF because non prime attribute is not fully functional dependent on candidate key.

~~Primary Key : Emp_ID~~

Candidate Key :- Emp_ID, Duty Shift_ID

Prime Key :- Emp_ID, Duty Shift_ID

Non Prime Key :- Name, Age, Duty_Shift

Emp_ID	Duty_Shift_ID
101	1
102	2
103	3
104	1

→ Primary key - Emp_ID

18BCS103

Emp_ID	Name	Age
101	Arun	26
102	Bobby	28
103	Suresh	32
104	Sita	24

→ Primary key :- Emp_ID

Duty_Shift_ID	Duty_Shift
1	Morning
2	Afternoon
3	Night

→ Primary key = Duty_Shift_ID

In the above question partial dependency is taking place between Duty_Shift_ID (prime key) and rest of the non-prime key attribute.

Table 2

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Table 2:-

→ This table is already in 1NF because it does not contain multivalued attribute

→ This table is already in 2NF because non prime key attribute is fully functional dependent on candidate key.

Primary key:- Emp_ID

Candidate key:- Emp_ID, Project_ID

Prime key:- Emp_ID, Project_ID

Non Prime key:- Name, Proj_Name, NO_of_hours

So, The Table is same as given in the question.

3) Table 1

→ The table is already in 1NF because it does not contain multivalued attribute.

→ The table is already in 2NF because non prime attribute is fully functional dependent on candidate key.

Candidate Key :- Cust_ID, Cusloc_ID (→ New attribute used.)

Prime key :- Cust_ID, Cusloc_ID

Non Prime Key :- Cust_name, Cust_postcode, Cust_address.

→ This table is not in 3NF because there is transitive dependency between Cust_loc and Cust_Addr

And to remove this transitive dependency we are introducing a new attribute called Custloc_ID

Cust ID	Cust Name	Cust postal	Cust Address	Cust loc_ID
25	Dell	560037	whitefield	1
45	Lenovo	560046	Marathahalli	1
89	Acer	210067	Bandra	2
90	Samsung	4500078	Delhi Central	3

↳ Primary Key - Cust_ID

Cust loc_ID	Cust_loc
1	Bangalore
2	Mumbai
3	Delhi

↳ Primary Key - Cust loc_ID

Table 2:-

→ This table is already in 1NF because it does not contain multivalued attribute.

→ This table is already in 2NF Because it ~~does not can~~ non prime attributes is fully functional dependent on candidate key

→ This table is already in 3NF because it does not contain transitive dependencies.

Primary key :- Building
Candidate Key :- Building
Prime Key Attribute :- Building
Non Prime Key Attribute :- Contractor, Builder, Fee.

So, the table is same as given in the question

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