DBMS LAB ASSIGNMENT - 6

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B. Sairaj
19BCS016

1. The given table is not in 1NF. Because the attributes cause contains more than value for eg:- ID-1 cause → 'DS, DBMS'. so as it is not in 1NF it can't be in 2NF & 3NF.

converted Table:

ID	Name	Age	Location	courses
1	Sachin	22	Delhi	DS
1	Sachin	22	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

* The above table is in 1NF.

* The prime attributes are → ID, Name

  Non prime attributes are → Age, Location, courses.

* FD → ID → Age, location, courses

Table: 1.2!

ID	Name	Phone	State	country
1	Kailley	97162578	Koanotaka	INDIA
2	Janret	987654968	Maharastra	INDIA
3	Robot	94567890	AP	INDIA
4	Thomas	9876 58490	Kerla	INDIA

The given above table is already in

1NF so no need to convert.

Primary key: Id

candidate key: Id, Name, Phone, state

Prime attributes: Id, Name, Phone, State

Non-prime: country!

2. In Table 2.1 is not in 2nd Normal Form. Because ID it is not fully functionaly independent

as :→   Emp_ID → Name, Age

Emp_ID, Duty-shit_ID → Duty-shit

* Primary keys: Emp_ID

candidate keys: Emp_ID, Name, Age.

Prime attributes: Emp_ID, Duty-shit-ID

Non-prime: Name, age, Duty-shift

converted Table:

Table : 1 (Emp-ID)

Emp_ID	Name	Age
101	Arjun	26
102	Bobby	28
103	suresh	32
104	sita	24

Table - 2 (Duty-shift - ID)

Emp_ID	Duty-shift_ID	Duty-shit
101	1	Morning
102	2	attanoon
103	3	Night
104	1	morning

Table: 2.2: is not in 2NF because it is not fully independent as:-

Emp-ID → Name

Emp-ID, project_ID → Projed-Name, no.of hours

* primary key: Emp-ID

candidate key: Emp-ID, project_ID. Name ....

Prime attributes: Emp-ID, Projed_ID, Name, projed_Name

Non-prime: —

Converted Table:

Emp-ID	Name
123	Ajay
321	chow
596	Rajesh
765	Abhishek

Emp-ID, project

Emp-ID	project-ID	Projed-Name	No.of hours
123	Prj-21	speech system	10
321	Prj-25	HR "	15
546	Prj-24	Automatic ticket	23
765	Prj-11	NIP	16

3. In table 3.1 is not in 3NF, there exists transitive dependency between {cust_address} & {cust_loc} on non-primary key which is {cust_postcode}

3NF would be:

cust_ID	cust_Name	cust_postcode
25	Dell	50037
45	lenovo	560048
89	acer	210067
90	samsung	450078

{cust_ID} → primary key

cust_postcode	cust_Address	cust_loc
560037	Whitefield	Banglore
560048	Marathahali	Banglore
210067	Bandra	Mumbai
450078	Delhi central	Delhi

{cust_postcode} → primary key

b. Here there exist transtive dependency, so, it is not in 3NF

$$\{contractor\} \rightarrow \{Fee\}$$

There should be no transitive dependency in 3NF.

$$\{Building\} \rightarrow Primary\ key$$

$\{contractor,\ Builder,\ Fee\} \rightarrow$ non-prime attributes

3NF should be:

Building	contractor	Builder
B - 2151	Taylor	Prestige
B - 8765	sandeep	Hirdamani
B - 4657	vishaka	Pata

Primary key $\rightarrow$ $\{$contractor, Fee$\}$

contractor	Fee
Taylor	2567891
sandeep	3517356
Nishaka	4567990