DBMS LAB CLASS ASSIGNMENT

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1)
A) The table is not in the 1NF form because the table to be in 1NF it should satisfy the following conditions:

      i. All the attributes must be indivisible

      ii. And there are no repeating elements or group of elements

But in the course table it has multiple values

Primary key: id

Non-primary key: Name, Age, Location , Course

Primary key attributes: id, Name,Location

Non primary-key attribute: Age,Course

id	Name	Age	Location
1	Sachin	22	Delhi
2	Ram	22	Jamshedpur
3	Mike	23	Chennai
4	Sameer	21	Bengaluru
5	Vijay	22	Mumbai

id	course
1	OS
1	DBMS
2	DAA
2	DBMS
3	ML
3	OS
4	DAA
4	ML
5	ML
5	DSMS

B) This table is in the 1at normal form

 Primary key : id

Candidate key: id,Name, Phone,State

Primary key attribute: id, name, phone, state

Non primary key attribute: country

2) Thee table to be in the 2NF it should follow the following conditions

i.   It is in First Normal Form(1NF).

ii.   No partial dependency exists between non-key attributes and key attributes.

A) It is not in the 2NF as there is a functional dependency

Emp_id ------> Name

Primary key: emp_id
Candidate key: emp_id,name,age
Primary key attribute: emp_id, name,age
Non primary key attribute: duty_shift_id, duty_shift

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

Emp_id	Duty_shift_id	Duty_shift
101	1	Morning
102	2	Afternoon
103	3	Night
104	1	Morning

B) Not in the 2NF as it has functional dependency

      Emp_id ------> Name

      Emp_id , Project_id -------> Project_name

      Emp_id, Project_id --------> No_of hours

Primary key : emp_id

Candidate key: emp_id , project_id , name , no_of_hours

Primary key attribute : emp_id , project_id , name , no_of_hours

Non primary key attribute :

Emp_id	Name
123	Ajay
321	Charu
546	Rajesh
765	Abhishek

Emp_id	Project_id	Project_name	No_of_hours
123	Prj_21	Speech_syatem	10
321	Prj_45	HR System	15
546	Prj_24	Automate Tickets	23
765	Prj_11	NLP	16

3) The table is said to be in the 2NF if and only if

i. It is in 2NF.

ii. No transitive dependency exists between non-key and key attributes through another non-key attribute.

B) It is not in the 3NF. Transitive dependency:

      Contractor -----> Fee

      Building -----> Contractor

Building -----> Builder

Primary key : building

Candidate key : building , contractor, builder , fee

Primary key attributes : building , contractor, builder , fee

Non primary key attributes :

Building	Contractor	Builder
B_2156	Taylor	Prestige
B_8765	Sandeep	Thranandani
B_4567	Vishaka	Tata

Constructor	Fee
Taylor	2567891
Sandeep	3567356
Vishaka	4567990