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Roll no - 19BCS115

Subject - DBMS LAB

Date - 6/4/12

Assignment - 6

converted

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

(i) As the Table contains multi valued attribute
∴ The Table was not in 1NF form

So as the above Table is not in 1NF ∴

It is impossible for the Table to be in
2NF and 3NF.

Note: As functional dependency is not given we are
assuming it and I am considering that
much data & only that much one is given in
table not taking in general form.

ii) Primary Key - Id
 Candidate key - id, Name

ii) Primary keys could be - idCourse, NameCourse.
 (Any one) LocalisationCourse.

. Candidate key - { idCourse, NameCourse, Localisation
 Course }

prime key - { id, Course, Name, Localisation }

Non prime key - { Age }

FB - Id → Age, Localisation, Courses.

(i) (ii), 2nd. Table is already in 1NF.

(iii) 1.2.

Primary - Id

Candidate key - Id, Name, ~~Localisation~~ Phone, State

Prime Attribute - Id, Name, ~~Localisation~~ Phone, State

Non-Prime Attribute - ~~Age, City~~ County

2(a) The Table is not in 2NF because it has
more than one dependent i.e Partial
Dependency exists.

- (i) Primary key - Emp Id
Candidate key - Emp Id, Name, Age
Prime Attribute - Emp Id, Name, Age
Non Prime Attribute - Duty Shift-id, Duty Shift.

Task	Completed		
Table 1			
Emp Id	Name	Age	
101	Dsun	26	
102	Bobby	28	
103	Suresh	32	
104	Sidu	44	

Table 2

EmpID	Duty Shift	Duty Shift
101	1	Morning
102	2	Afternoon
103	3	Night
104	1	Morning

FDS Emp ID → Name, Age

Emp ID, Duty-shift-ID → Duty Shift

15) This table also contain partial dependency.
 \therefore it is not in 2NF.

Converted Table

Emp ID	Name
123	Ajay
321	Chetu
546	Rajesh
765	Amitesh

Emp id	Project id	Proj Name	No. of hours
123	Pj-21	Ajay Speech system	10
321	Pj-45	Chetu HR system	15
546	Pj-24	Rajesh Astromic Test	23
765	Pjg-11	Amitesh NLP	16

Primary key - Emp ID

Candidate Key - Emp ID, Project ID

Other Attrib - Emp ID, Project ID

Non Pk Attrib - Name, Proj Name, No. of hours

FDS Emp ID \rightarrow Name

Emp ID Project ID \rightarrow Project name, no. of hours

3)
b)

(i) 3NF - converted

Building	Contractor	Builder
B-2156	Jaylos	Poddige
B-8765	Sandeep	Hernandis
B-4567	Vishaka	Jata

Contractor	Fee
Jaylos	2567891
Sandeep	3567356
Vishaka	4567990

- As there exist transitive dependency so it is not in 3NF.

Primary key - Building

Candidate key - Building, Contractor, Builders, Fee

Prime - Building, Contractor, Builders, Fee

Non Prime -

FDS Contractor → Fee

3) a)

3NF Consider

Cust Id	Cust Name	Cust Postcode
25	DELL	560053
45	Lenovo	560048
81	acer	210068
90	Samsung	4500038

Cust Postcode	Cust Loc.	Cust address
560053	Bangalore	whitefield Marathahalli
560048	Bangalore	Bandra
210068	Mumbai	Delhi Central
4500038	Belti	

As there exist transitive dependency . It is not in 3NF

Primary - Cust Id

Candidate - Cust Id, Cust Name, Cust Postcode
Cust Address

Prime - Cust Id, Cust Name, Cust Postcode,
Cust Address

Non prime - Cust Loc.

FIDs
Cust Postcode → Cust Loc, Cust Address
Cust Id → Cust Name