DBMS - LAB - Assig6 - Normalization

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1) From the table the primary key is Id

For a table to be 1NF all must be scalar. Primary key is ID

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
3	Mike	23	Chennai	OS
4	Sameer	21	Bengaluru	DAA
4	Sameer	21	Bengaluru.	ML
5	Vijay	22	Mumbai	ML
5	Vijay	22	Mumbai	DSM

(ii) The second table is already in NF INF No need of any conversion

2) i) Emp_ID ⟶ Name, Age ~~Dut~~

Emp_ID determines the values of Name Age.

Emp_ID, Duty_shif_ID ⟶ Duty_shift.

↳ Partial dependency takes place.

Emp_ID is primary key

Emp_ID, Duty_shift_ID are prime Attributes

Name, Age, Duty_shift are Candidate Attributes

Emp_ID	Name	Age
101	Arun	26
102	Bobby	28
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.

ii) Emp_ID ⟶ Name. ⟶ Partial dependency.

Emp_ID, Project_ID ⟶ Proj_Name, No.of hours

Emp_ID is primary key

Emp_ID, Project_ID ⟶ Primary Attributes.

Name, proj_Name, No.of hours ⟶ Candidate Attributes

Emp_ID	Name
123	Ajay
321	Charu
546	Rajesh
765	Abhishek.

Emp_ID	Proj_ID	Proj_Name	Name of hours
123	Prj_21	Speech System	10
321	Prj_45	HR System	15
546	Prj_24	Automatic Tickets	23
765	Prj_11	NLP	16

3) i) Cust_ID → Primarykey.

cust_ID → custname, cust_postcode, Cust_address, Cust_Loc

Cust_name → cust postcode, cust_Address_Cust_loc

↳ Transtive dependency.

Customer will deside his location.

For a table be 3NF There should be transtive dependence.

old schema → {cust_ID, cust_name, Cust_Postcode, Cust_Address, Cust_loc}

New schema → {Cust_ID, Cust_name}

New schema → {Cust_name, Cust_Postcode, Cust_Address, Cust_loc}

Cust_ID	Cust_name
25	Dell
45	lenovo
89	Acer
90	Samsung.

cust_name	cust_Postcode	Cust_Address	Cust_loc
Dell	560037	Whitefield	Bangalore
Lenovo	560046	Marathahalli	Bangalore
Acer	210067	Bandra	Mumbai
Samsung	450078	Delhicentral	Delhi

ii) Building — Primary key

Building → Contractor, Builder, Fee.

Contractor → Fee
→ Transitive dependency

New Schema → {Building, Builder, Contractor}

New Schema → {Contractor, Fee}.

3NF is

# Building	Contractor	Builder
B-2156	Taylor	Prestige
B-8765	Sandeep	Hiranandani
B-4567	Vishaka	Tata.

Contractor	Fee
Taylor	2567891
Sandep	3567356
Vishaka	4567890.