

## Lab Sheet - 10

### 1. First Normal form (1NF)

split multiple subjects into separate rows.

| student_id | student_name | subject |
|------------|--------------|---------|
| 1.         | Rohan Kumar  | math    |
| 1.         | Rohan Kumar  | Science |
| 2.         | Priya Sharma | english |
| 2.         | Priya Sharma | History |
| 3.         | Ankit Verma  | math    |
| 3.         | Ankit Verma  | english |

### 2. Second Normal form (2NF)

conversion to 2NF

Table 1: students.

| student_id | student_name |
|------------|--------------|
| 1.         | Rohan Kumar  |
| 2.         | Priya Sharma |
| 3.         | Ankit Verma  |

Table 2 : student marks

| student-id | subject | marks |
|------------|---------|-------|
| 1          | math    | 85    |
| 1          | science | 90    |
| 2          | english | 80    |
| 2          | history | 88    |
| 3          | math    | 92    |
| 3          | english | 84    |

3. ~~Third Normal form (3NF)~~

| emp-id (PK) | emp-name | dept-id (FK) |
|-------------|----------|--------------|
| 101         | Raj      | DO1          |
| 102         | Neha     | DO2          |
| 103         | Arijon   | DO2          |

## Department

| dept_id (PK) | dept_name | dept_location |
|--------------|-----------|---------------|
| D01          | HR        | Delhi         |
| D02          | IT        | Mumbai        |

4. Boyce - codd Normal form (BCNF) -

courses - teacher

course (BCNF)

course\_id (PK) ~~room~~

C101

R1

C102

~~room~~

R2

CoursesInstructor (relationships)

course\_id (FK)

Instructor

C101

A. Kumar

C101

B. Sharma

C102

B. Sharma