

ASSIGNMENT 9: Normalization

Assume a video library maintains a database of movies rented out. Without any normalization all information is stored in one table as shown below.

Full Name	Physical Address	Movies Rented	Salutation
Janet Jones	First Street Plot No 4	Pirates of the Caribbean, Clash of the Titans	Ms.
Robert Phil	3 rd Street 34	Forgetting Sarah Marshal, Daddy's Little Girls	Mr.
Robert Phil	5 th Avenue	Clash of the Titans	Mr.

SOLUTION:

1) 1NF

- Each table cell should contain single value.
- Each record needs to be unique.

Full Name	Physical Address	Movies Rented	Salutation
Janet Jones	First Street Plot No 4	Pirates of the Caribbean	Ms.
Janet Jones	First Street Plot No 4	Clash of the Titans	Ms.
Robert Phil	3 rd Street 34	Forgetting Sarah Marshal	Mr.
Robert Phil	3 rd Street 34	Daddy's Little Girls	Mr.
Robert Phil	5 th Avenue	Clash of the Titans	Mr.

2) 2NF

- Rule 1- Be in 1NF
- Rule 2- Single Column Primary Key

Membership ID	Full Name	Physical Address	Salutation
1	Janet Jones	First Street Plot No 4	Ms.
2	Robert Phil	3 rd Street 34	Mr.
3	Robert Phil	5 th Avenue	Mr.

Membership Id	Movies Rented
1	Pirates of the Caribbean
1	Clash of the Titans
2	Forgetting Sarah Marshal
2	Daddy's Little Girls
3	Clash of the Titans

3) 3NF

- Rule 1- Be in 2NF
- Rule 2- Has no transitive functional dependencies

Membership ID	Full Name	Physical Address	Salutation ID
1	Janet Jones	First Street Plot No 4	2
2	Robert Phil	3 rd Street 34	1
3	Robert Phil	5 th Avenue	1

Membership Id	Movies Rented
1	Pirates of the Caribbean
1	Clash of the Titans
2	Forgetting Sarah Marshal
2	Daddy's Little Girls
3	Clash of the Titans

Salutation ID	Salutation
1	Mr.
2	Ms.
3	Mrs.
4	Dr.