

NORMALIZATION

Normalization for Driver table:

In the Driver table the FD's and the violations of the normal forms

Driver(D_ID,D_SSN,D_FIRSTNAME,D_LASTNAME,D_SALARY,D_AGE,D_PHONE,D_LOCATION)

As it violates the 1NF as it has the multivalued attributes

for the name section We change them into the D_name

after the first normal form

FD's are : FD1: {D_ID,D_SSN} →

{D_name,D_salary,D_age,D_phone,D_location} FD

2: {D_ID} → {D_name}

FD 3 :{D_SSN} → {D_salary}

FD 4: {D_phone} → {D_Location}

The taken Fd's violates the 2 NF from FD2 and FD3 as it has the partial dependence After the 2NF

(D_ID,D_SSN,D_AGE,D_PHONE,D_LOCATION)

(D_ID,D_name)

(D_SSN, D_salary)

The taken FD's violates the 3 NF as where it has transitive relation in the FD2 we should remove it

After the 3NF:

Driver 1 :(D_ID,D_SSN,D_AGE,D_PHONE)

Driver 2 : (D_ID, D_name)

Driver 3: (D_SSN, D_salary)

Driver 4:(D_Phone,D_location)

Normalization for Boat Table:

In the **Boat table** the FD's and the violations of the normal forms

Boat(H_ID,O_id,H_name,Capacity,Type ,Noofbeds,price)

As it violates the 1NF as it has the multivalued attributes for the ac,non/ac section We change them into the Type after the first normal form

FD's are : FD1: {H_ID, O_id} → {Capacity,Type ,Noofbeds)

FD 2: {H_ID} → {H_name}

FD 3 :{TYPE} → {price}

The taken Fd's violates the 2 Nf from FD2 as it has the partial dependence After the 2NF

(H_ID,O_id,Type ,Noofbeds,price,capacity)

(H_ID,H_name)

The taken FD's violates the 3 NF as where it has transitive relation in the FD2 we should remove it

After the 3NF:

Boat :(H_ID,O_id,Capacity,Type,No.of.beds)

Boat 1 : (H_ID,H_name)

Boat 2: (TYPE ,Price)

Normalization for Owner table:

In the Owner table the FD's and the violations of the normal forms

Owner(O_ID,O_FIRSTNAME,O_LASTNAME,O_PHONE,TC_id)

As it violates the 1NF as it has the multivalued attributes of the first name,lastname section

We change them into the O_name after the first normal form

FD's are : FD1: {O_ID} → {O_name,O_phone,TC_id)

FD 2: {O_name} → {TC_id}

The taken FD's violates the 3 NF as where it has transitive relation in the FD2 we should remove it

After the 3NF:

Owner 1 : (O_ID, O_name, D_PHONE)

Owner 2 : (O_name, TC_id)

Final Tables after Normalization are

- Owner 1
- Owner 2
- Boat
- Boat 1
- Boat 2
- Driver 1
- Driver 2
- Driver 3
- Driver 4
- Tourist 1
- Tourist 2