Proof of Normalisation

1. District

District (districtid, district\_name, area, total\_population)

FDS :

districtid ⮕ district\_name

district\_name ⮕ area

area ⮕ total\_population

total\_population ⮕ districtid

districtid **+ =** (districtid, district\_name, area, total\_population)

Primary Key = districtid

BCNF Proof :

For every dependencies of minimal FD set, each determinant of relation is a candidate key. Hence the relation is BCNF.

2.Effected District

Effected District(district\_name, districtid, effected\_people, starting\_date , severty,effected\_area)

FDS :

district\_name ⮕ districtid

districtid⮕ effected\_people

district\_name ⮕ starting\_date

district\_name ⮕ severty

effected\_people ⮕ effected\_area

effected\_area ⮕ district\_name

district\_name **+ =** (district\_name, districtid, effected\_people, starting\_date , severty,effected\_area)

Primary Key = district\_name

BCNF Proof :

For every dependencies of minimal FD set, each determinant of relation is a candidate key. Hence the relation is BCNF.

3.Medical Camp

Medical Camp (dist\_org\_id, name\_of\_org, camp\_name,contact,capacity,available\_space,camp\_tpye,doctors,

email)

FDS :

camp\_name ⮕ name\_of\_org

camp\_name ⮕ dist\_org\_id

camp\_name ⮕ contact

camp\_name ⮕ capacity

camp\_name ⮕ available\_space

camp\_name ⮕ camp\_tpye

camp\_name ⮕ doctors

camp\_name ⮕ email

camp\_name **+ =** (dist\_org\_id, name\_of\_org, camp\_name,contact,capacity,available\_space,camp\_tpye,doctors,

email)

Primary Key = camp\_name

BCNF Proof :

For every dependencies of minimal FD set, each determinant of relation is a candidate key. Hence the relation is BCNF.

4. Shelter

Shelter (dist\_org\_id, name\_of\_org, shelter\_name, contact, capacity, available\_space, shelter\_tpye , email)

FDS :

shelter\_name ⮕ name\_of\_org

shelter\_name ⮕ dist\_org\_id

shelter\_name ⮕ contact

shelter\_name ⮕ capacity

shelter\_name ⮕ available\_space

shelter\_name ⮕ shelter\_tpye

shelter\_name ⮕ email

shelter\_name **+ =** (dist\_org\_id, name\_of\_org, shelter\_name,contact,capacity,available\_space,shelter\_tpye ,

email)

Primary Key = shelter\_name

BCNF Proof :

For every dependencies of minimal FD set, each determinant of relation is a candidate key. Hence the relation is BCNF.

5. Past Information

Past Information(district\_name, year ,total\_amount\_donation ,total\_effected\_area, total\_death,)

FDS :

(district\_name, year) ⮕ total\_amount\_donation

(district\_name, year) ⮕ total\_effected\_area

(district\_name, year) ⮕ total\_death

(district\_name, year) **+ =** (district\_name, year ,total\_amount\_donation ,total\_effected\_area, total\_death,)

Primary Key = (district\_name, year)

BCNF Proof :

For every dependencies of minimal FD set, each determinant of relation is a candidate key. Hence the relation is BCNF.

6.Organisation

Organisation (org\_id,org\_name,conatact\_number,website,email,type\_of\_org)

FDS :

org\_id ⮕ org\_name

org\_id ⮕ conatact\_number

conatact\_number ⮕ website

website ⮕ email

email ⮕ org\_id

org\_id ⮕ type\_of\_org

org\_id **+ =** (org\_id,org\_name,conatact\_number,website,email,type\_of\_org)

Primary Key = org\_id

BCNF Proof :

For every dependencies of minimal FD set, each determinant of relation is a candidate key. Hence the relation is BCNF.

7.Organisation Ids district wise

organisation\_ids \_dist (org\_id,dist\_org\_id)

FDS :

dist\_org\_id ⮕ org\_id

dist\_org\_id **+ =** (org\_id,dist\_org\_id)

Primary Key = dist\_org\_id

BCNF Proof :

For every dependencies of minimal FD set, each determinant of relation is a candidate key. Hence the relation is BCNF.

8. Activity

activity(org\_id,activity\_name)

In this table there is no FDs and primary key.

This table is in 1NF.

9.District Organisation

district\_org(dist\_org\_id,district\_name,working\_org,allocated\_teams)

FDS :

dist\_org\_id ⮕ district\_name

dist\_org\_id ⮕ working\_org

dist\_org\_id ⮕ allocated\_teams

dist\_org\_id **+ =** (dist\_org\_id,district\_name,working\_org,allocated\_teams)

Primary Key = dist\_org\_id

BCNF Proof :

For every dependencies of minimal FD set, each determinant of relation is a candidate key. Hence the relation is BCNF.

10. Missing People

Missing\_people(contact\_number ,name\_of\_relative\_first, name\_of\_relative\_middle, name\_of\_relative\_last, email,name\_of\_missing\_person\_first, name\_of\_missing\_person\_middle, name\_of\_missing\_person\_last,age,gender,identification\_mark,distrcit\_id)

FDS :

contact\_number ⮕ email

contact\_number ⮕ name\_of\_relative\_first

contact\_number ⮕ name\_of\_relative\_middle

contact\_number ⮕ name\_of\_relative\_last

contact\_number ⮕ name\_of\_missing\_person\_first

contact\_number ⮕ name\_of\_missing\_person\_middle

contact\_number ⮕ name\_of\_missing\_person\_last

contact\_number ⮕ age

contact\_number ⮕ gender

contact\_number ⮕ identification\_mark

contact\_number ⮕ district\_id

contact\_number **+ =** (contact\_number ,name\_of\_relative\_first, name\_of\_relative\_middle, name\_of\_relative\_last, email,name\_of\_missing\_person\_first, name\_of\_missing\_person\_middle, name\_of\_missing\_person\_last,age,gender,identification\_mark,distrcit\_id)

Primary Key = contact\_number

BCNF Proof :

For every dependencies of minimal FD set, each determinant of relation is a candidate key. Hence the relation is BCNF.

11.Unclaimed Body

unclaimed\_body (name\_of\_missing\_person\_first, name\_of\_missing\_person\_middle, name\_of\_missing\_person\_last,age,gender,identification\_mark,distrcit\_id)

In this table there is no FDs and primary key.

This table is in 1NF.