Project Work

## Municipal Corporation

# Functional Dependencies

IT214 Database Management System, Autumn-2019;

Group: 3.15

## • Functional Dependencies (Minimal Set):

CitizenID F\_Name

CitizenID \_\_\_\_\_M\_Name

CitizenID \_\_\_\_\_L\_Name

CitizenID Gender

CitizenID DoB

CitizenID House\_No

CitizenID Society

CitizenID PINcode

CitizenID Income

{CitizenA, CitizenB} Relation

Penalty\_ID Amount

Penalty\_ID Pro\_ID

Penalty\_ID CitizenID

Penalty\_ID Description

SchemeNo SchemeName

SchemeNo Family\_Income\_Limit

SchemeNo lowerage

SchemeNo upperage

SchemeNo Description

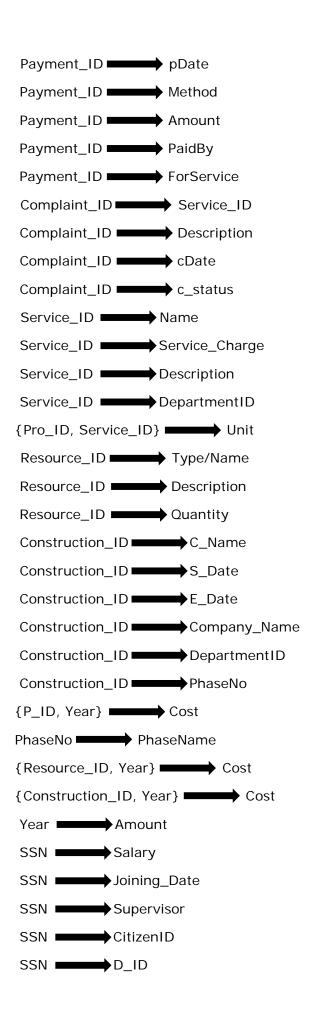
Pro\_ID Type

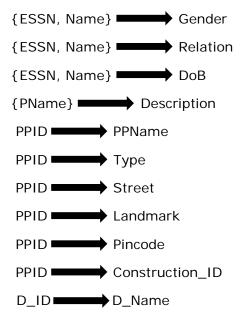
Pro\_ID Owner

Pro\_ID span

Pro\_ID Tax

Pro\_ID PaidStatus





## • Projection of functional Dependencies:

#### o Citizen :

CitizenID F\_Name

CitizenID M\_Name

CitizenID L\_Name

CitizenID Gender

CitizenID DoB

CitizenID House\_No

CitizenID PINcode

CitizenID Income

Key is {CitizenID}, BCNF

#### RelatedTo:

{CitizenA, CitizenB} Relation

Key is {CitizenA, CitizenB}, BCNF

#### Contacts:

Key is {CitizenID, ContactNo}, BCNF

#### o Penalty:

Penalty\_ID Amount

Penalty\_ID Pro\_ID

Penalty\_ID CitizenID

Penalty\_ID — Description

Key is {Penalty\_ID}, BCNF

#### o Welfare\_scheme :

SchemeNo SchemeName

SchemeNo Family\_Income\_Limit

SchemeNo lowerage

SchemeNo upperage

SchemeNo Description

Key is {SchemeNo}, BCNF

#### o Taken :

Key is {Citizen\_ID, SchemeID}, BCNF

#### o Property :

Pro\_ID Type

Pro\_ID Owner

Pro\_ID span

Pro\_ID Tax

Pro\_ID PaidStatus

Key is {PropertyID}, BCNF

#### PeopleHaveComplain :

Key is {CitizenID, Complaint\_ID}, BCNF

#### o Payment :

Payment\_ID pDate

Payment\_ID Method

Payment\_ID Amount

Payment\_ID PaidBy

Payment\_ID ForService

Key is {Payment\_ID}, BCNF

#### complain:

Complaint\_ID Service\_ID

Complaint\_ID ——— Description

Complaint\_ID **c**Date

Complaint\_ID \_\_\_\_ c\_status

Key is {Complaint\_ID}, BCNF

#### Services :

Service\_ID Name

Service\_ID Service\_Charge

Service\_ID Description

Service\_ID DepartmentID

Key is **{Service\_ID}**, BCNF

#### o PropertyUSESservices :

{Pro\_ID, Service\_ID} — Unit

Key is {Pro\_ID, Service\_ID}, BCNF

#### Resources:

Resource\_ID Type/Name

Resource\_ID **Description** 

Resource\_ID Quantity

Key is {Resource\_ID}, BCNF

#### ResourcesUSED :

Key is {Resource\_ID, Service\_ID}, BCNF

#### o Construction:

Construction\_ID \_\_\_\_\_C\_Name

Construction\_ID S\_Date

Construction\_ID E\_Date

Construction\_ID Company\_Name

Construction\_ID DepartmentID

Construction\_ID PhaseNo

Key is {Construction\_ID}, BCNF

#### o CostonProject :

{P\_ID, Year} Cost

Key is **{P\_ID**, **Year}**, BCNF

#### > Phase:

PhaseNo PhaseName

Key is {PhaseNo}, BCNF

#### CostonResource :

{Resource\_ID, Year} Cost

Key is {Resource\_ID, Year}, BCNF

#### o CostonConst :

Key is  $\{Construction\_ID, Year\}$ , BCNF

#### o Expenses:

Year Amount

Key is {Year}, BCNF

#### o Employee :

SSN Salary

SSN Joining\_Date

SSN Supervisor

SSN CitizenID

SSN \_\_\_\_\_D\_ID

Key is {SSN}, BCNF

#### Dependents:

{ESSN, Name} Gender

{ESSN, Name} Relation

{ESSN, Name} ■ DoB

Key is {ESSN, Name}, BCNF

#### o Privilege :

{PName} Description

Key is {PName}, BCNF

### o DependentsHave :

Key is {ESSN, Name, PName}, BCNF

#### 。 PPmaintain:

Key is {PPID, D\_ID}, BCNF

## o PublicProperty :

PPID PPName

PPID Type

PPID Street

PPID Landmark

PPID Pincode

PPID Construction\_ID

Key is {PropertyID}, BCNF

#### o Renovation/Rebuild :

Key is {PPID, ConstructionID}, BCNF

#### o Department :

Key is {D\_ID}, BCNF

$$===X===$$