FIT2094 Databases

Assignment 1B A01-Group13

Normalization of Truck Trailer Purpose Details

**Relationship Normalization (Truck Trailer Purpose Details):**

**UNF**

PURPOSE (purpose\_no, desc\_info, (truck\_trailer\_combo\_code, truck\_vin, truck\_rego\_no, trailer\_code, trailer\_manufacturer, trailer\_model, trailer\_class, trailer\_load\_capacity, trailer\_dimension))

Repeating Groups**:**

Have been identified in the parenthesis above.

**1NF**

PURPOSE (purpose\_no, desc\_info)

TRUCK\_TRAILER\_PURPOSE (purpose\_no, truck\_trailer\_combo\_code, truck\_vin, truck\_rego\_no, trailer\_code, trailer\_manufacturer, trailer\_model, trailer\_class, trailer\_load\_capacity, trailer\_dimension)

Candidate Keys:

* purpose\_no, truck\_trailer\_combo\_code
* purpose\_no, truck\_vin, truck\_trailer\_combo\_code
* purpose\_no, truck\_rego\_no, truck\_trailer\_combo\_code
* purpose\_no

Partial Dependencies:

truck\_trailer\_combo\_code -> truck\_vin, truck\_rego\_no, trailer\_code, trailer\_manufacturer, trailer\_model, trailer\_class, trailer\_load\_capacity, trailer\_dimension

truck\_vin -> truck\_rego\_no

trailer\_code -> trailer\_manufacturer, trailer\_model, trailer\_class, trailer\_load\_capacity, trailer\_dimension

**2NF**

PURPOSE (purpose\_no, desc\_info)

TRUCK\_TRAILER\_PURPOSE (purpose\_no, truck\_trailer\_combo\_code)

COMBO\_DETAIL (truck\_trailer\_combo\_code, truck\_vin, truck\_rego\_no, trailer\_code, trailer\_manufacturer, trailer\_model, trailer\_class, trailer\_load\_capacity, trailer\_dimension)

Transitive dependencies:

truck\_vin -> truck\_rego\_no

trailer\_code -> trailer\_manufacturer, trailer\_model, trailer\_class, trailer\_load\_capacity, trailer\_dimension

trailer\_model -> trailer\_manufacturer, trailer\_load\_capacity, trailer\_dimension

**3NF**

PURPOSE (purpose\_no, desc\_info)

TRUCK\_TRAILER\_PURPOSE (purpose\_no, truck\_trailer\_combo\_code)

COMBO\_DETAIL (truck\_trailer\_combo\_code, truck\_vin, trailer\_code)

TRUCK (truck\_vin, truck\_rego\_no)

TRAILER (trailer\_code, trailer\_model)

TRAILER\_DETAIL(trailer\_model, trailer\_class, trailer\_manufacturer, trailer\_load\_capacity, trailer\_dimension)

Full dependencies:

purpose\_no -> desc\_info

truck\_trailer\_combo\_code -> truck\_vin, trailer\_code

truck\_vin -> truck\_rego\_no

trailer\_code -> trailer\_model

trailer\_model -> trailer\_class, trailer\_manufacturer, trailer\_load\_capacity, trailer\_dimension

**Relationship Normalization (Company Job Sheet):**

**UNF**

QUOTE (quote\_no, quote\_prep\_date, quote\_purpose\_no, quote\_purpose\_desc, quote\_day\_req, quote\_cost)

JOB (job\_no, job\_truck\_trailer\_\_combo, job\_driver\_emp\_no, job\_driver\_name, job\_mech\_emp\_no, job\_mech\_name, job\_pickup\_date\_time, job\_intended\_dropoff\_date\_time, job\_actual\_dropoff\_date\_time, job\_cost, job\_cli\_pay\_date)

Repeating groups:

There are no repeating groups

**1NF**

QUOTE (quote\_no, quote\_prep\_date, quote\_purpose\_no, quote\_purpose\_desc, quote\_day\_req, quote\_cost)

JOB (job\_no, job\_truck\_trailer\_\_combo, job\_driver\_emp\_no, job\_driver\_name, job\_mech\_emp\_no, job\_mech\_name, job\_pickup\_date\_time, job\_intended\_dropoff\_date\_time, job\_actual\_dropoff\_date\_time, job\_cost, job\_cli\_pay\_date)

Candidate Keys:

Job\_no

Quote\_no

Partial dependencies:

There are no partial dependencies

**2NF**

QUOTE (quote\_no, quote\_prep\_date, quote\_purpose\_no, quote\_purpose\_desc, quote\_day\_req, quote\_cost)

JOB (job\_no, job\_truck\_trailer\_\_combo, job\_driver\_emp\_no, job\_driver\_name, job\_mech\_emp\_no, job\_mech\_name, job\_pickup\_date\_time, job\_intended\_dropoff\_date\_time, job\_actual\_dropoff\_date\_time, job\_cost, job\_cli\_pay\_date)

Transitive dependencies:

quote\_purpose\_no -> quote\_purpose\_desc

job\_driver\_emp\_no -> driver\_name

job\_mech\_emp\_no -> job\_mech\_name

**3NF**

QUOTE (quote\_no, quote\_prep\_date, quote\_purpose\_no, quote\_day\_req, quote\_cost)

QUOTE\_PURPOSE (quote\_purpose\_no, quote\_purpose\_desc)

JOB (job\_no, job\_truck\_trailer\_\_combo, job\_pickup\_date\_time, job\_intended\_dropoff\_date\_time, job\_actual\_dropoff\_date\_time, job\_cost, job\_cli\_pay\_date)

DRIVER\_DETAIL (job\_driver\_emp\_no, job\_driver\_name)  
  
MECH\_DETAIL (job\_mech\_emp\_no, job\_mech\_name)

Full dependencies:

quote\_no -> quote\_prep\_date, quote\_purpose\_no, quote\_day\_req, quote\_cost

quote\_purpose\_no -> quote\_purpose\_desc

job\_no -> job\_truck\_trailer\_\_combo, job\_pickup\_date\_time, job\_intended\_dropoff\_date\_time, job\_actual\_dropoff\_date\_time, job\_cost, job\_cli\_pay\_date

job\_driver\_emp\_no -> job\_driver\_name

job\_mech\_emp\_no -> job\_mech\_name

**Collected 3NF Relations:**

PURPOSE (purpose\_no, desc\_info)

TRUCK\_TRAILER\_PURPOSE (purpose\_no, truck\_trailer\_combo\_code)

COMBO\_DETAIL (truck\_trailer\_combo\_code, truck\_vin, trailer\_code)

TRUCK (truck\_vin, truck\_rego\_no)

TRAILER (trailer\_code, trailer\_model)

TRAILER\_DETAIL(trailer\_model, trailer\_class, trailer\_manufacturer, trailer\_load\_capacity, trailer\_dimension)

QUOTE (quote\_no, quote\_prep\_date, quote\_purpose\_no, quote\_day\_req, quote\_cost)

QUOTE\_PURPOSE (quote\_purpose\_no, quote\_purpose\_desc)

JOB (job\_no, job\_truck\_trailer\_\_combo, job\_pickup\_date\_time, job\_intended\_dropoff\_date\_time, job\_actual\_dropoff\_date\_time, job\_cost, job\_cli\_pay\_date)

DRIVER\_DETAIL (job\_driver\_emp\_no, job\_driver\_name)  
  
MECH\_DETAIL (job\_mech\_emp\_no, job\_mech\_name)

**After Attribute Synthesis:**

PURPOSE (purpose\_no, desc\_info)

TRUCK\_TRAILER\_PURPOSE (purpose\_no, truck\_trailer\_combo\_code)

COMBO\_DETAIL (truck\_trailer\_combo\_code, truck\_vin, trailer\_code)

TRUCK (truck\_vin, truck\_rego\_no)

TRAILER (trailer\_code, trailer\_model)

TRAILER\_DETAIL(trailer\_model, trailer\_class, trailer\_manufacturer, trailer\_load\_capacity, trailer\_dimension)

QUOTE (quote\_no, quote\_prep\_date, quote\_purpose\_no, quote\_day\_req, quote\_cost)

JOB (job\_no, job\_truck\_trailer\_\_combo, job\_pickup\_date\_time, job\_intended\_dropoff\_date\_time, job\_actual\_dropoff\_date\_time, job\_cost, job\_cli\_pay\_date)

EMPLOYEE (emp\_no, emp\_name)