Clean Up Inc Driver report

UNF

DRIVER(driver_no, licence_no, name, dob, tfn, (VIN, rego_number, make, model, year))

1NF

DRIVER(driver_no, driver_licence_no, driver_name, driver_dob, driver_tfn)

AUTH_TRUCK(driver_no, truck_vin, truck_rego, truck_make, truck_model, truck_year)

Partial dependencies:

truck_vin -> truck_rego, truck_make, truck_model, truck_year

2NF

DRIVER(driver_no, driver_licence_no, driver_name, driver_dob, driver_tfn)

AUTH_TRUCK(driver_no, truck_vin)

TRUCK(truck_vin, truck_rego, truck_make, truck_model, truck_year)

Transitive dependencies:

No transitive dependencies present

3NF

DRIVER(driver_no, driver_licence_no, driver_name, driver_dob, driver_tfn)

TRUCK_AUTH(driver_no, truck_vin)

TRUCK(truck_vin, truck_rego, truck_make, truck_model, truck_year)

Overall dependencies:

driver_no -> driver_licence_no, driver_name, driver_dob, driver_tfn

truck_vin -> truck_rego, truck_make, truck_model, truck_year

Clean Up Inc Collection report

UNF

COLLECTION_REPORT(contract_no, waste_type_id, waste_type_description, coll_freq, (coll_date, driver_no, driver_phone, truck_vin, (bin_rfid, coll_weight, overweight)))

1NF

WASTE_COLLECTION(contract_no, waste_type_id, waste_type_description, coll_freq)

DAY_REPORT(contract_no, waste_type_id, coll_date, driver_no, driver_phone, truck_vin)

BIN_COLLECTION(contract_no, waste_type_id, coll_date, bin_rfid, coll_weight, overweight)

Partial dependencies:

waste_type_id -> waste_type_description

2NF

WASTE_COLLECTION(contract_no, waste_type_id, coll_freq)

WASTE(waste_type_id, waste_type_description)

DAY_REPORT(contract_no, waste_type_id, coll_date, driver_no, driver_phone, truck_vin)

BIN_COLLECTION(contract_no, waste_type_id, coll_date, bin_rfid, coll_weight, overweight)

Transitive dependencies:

driver_no -> driver_phone

3NF

WASTE_COLLECTION(contract_no, waste_type_id, coll_freq)

WASTE(waste_type_id, waste_type_description)

DAY_REPORT(contract_no, waste_type_id, coll_date, driver_no, truck_vin)

BIN_COLLECTION(contract_no, waste_type_id, coll_date, bin_rfid, coll_weight, overweight)

DRIVER(driver_no, driver_phone)

Overall dependencies:

contract_no, waste_type_id -> coll_freq

waste_type_id -> waste_type_description

contract_no, waste_type_id, coll_date -> driver_no, truck_vin

contract_no, waste_type_id, coll_date, bin_rfid -> coll_weight, overweight

driver_no -> driver_phone

Attribute Synthesis

Collected 3NF Relations

1. DRIVER(driver_no, driver_licence_no, driver_name, driver_dob, driver_tfn)
2. TRUCK_AUTH(driver_no, truck_vin)
3. TRUCK(truck_vin, truck_rego, truck_make, truck_model, truck_year)
4. WASTE_COLLECTION(contract_no, waste_type_id, coll_freq) (already in assignment 1A)
5. WASTE(waste_type_id, waste_type_description) (already in assignment 1A)
6. DAY_REPORT(contract_no, waste_type_id, coll_date, driver_no, truck_vin)
7. BIN_COLLECTION(contract_no, waste_type_id, coll_date, bin_rfid, coll_weight, overweight)
8. DRIVER(driver_no, driver_phone)

Can combine 1 and 8.

Further attribute synthesis with our assignment 1A attributes suggests that:

- bin_rfid is the same as prop_bin_rfid_tag
- contract_no is the same as contract_id

These updates have been made accordingly.

Final Relations

1. DRIVER(driver_no, driver_licence_no, driver_name, driver_dob, driver_tfn, driver_phone)
2. TRUCK_AUTH(driver_no, truck_vin)
3. TRUCK(truck_vin, truck_rego, truck_make, truck_model, truck_year)
4. WASTE_COLLECTION(contract_id, waste_type_id, coll_freq)
5. WASTE(waste_type_id, waste_type_description)
6. DAY_REPORT(contract_id, waste_type_id, coll_date, driver_no, truck_vin)
7. BIN_COLLECTION(contract_id, waste_type_id, coll_date, prop_bin_rfid_tag, coll_weight, overweight)