

Assignment 1B Normalisation

Group Number: T1_Group04

Group Members:

1. Chong Jin Yao
2. Heng Zi Ying
3. Mark Gabriel Sta. Ana Manlangit

Allocated Tutor Name: Ms. Nursyarizan Mohd Akbar

i) Driver details:

UNF

DRIVER (driver_no, driver_license_no, driver_name, driver_dob, driver_tax_no, (truck_vin, truck_rego_no, truck_make, truck_model, truck_year))

1NF

DRIVER (driver_no, driver_license_no, driver_name, driver_dob, driver_tax_no)

AUTHORISED_DRIVER (truck_vin, truck_rego_no, truck_make, truck_model, truck_year, driver_no)

- Partial dependency:

truck_vin -> truck_rego_no, truck_make, truck_model, truck_year

2NF

DRIVER (driver_no, driver_license_no, driver_name, driver_dob, driver_tax_no)

AUTHORISED_DRIVER (truck_vin, driver_no)

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

- Transitive dependency:

No transitive dependencies present

3NF

DRIVER (driver_no, driver_license_no, driver_name, driver_dob, driver_tax_no)

AUTHORISED_DRIVER (truck_vin, driver_no)

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

Full dependencies:

driver_no -> driver_license_no, driver_name, driver_dob, driver_tax_no

truck_vin -> truck_rego_no, truck_make, truck_model, truck_year

ii) Collection Report:

UNF

CONTRACT_DETAIL (contract_no, waste_type_id, waste_type_desc, waste_type_collection_freq, (collection_date, driver_no, truck_vin, (bin_rfid, collected_kgs, overweight)))

1NF

CONTRACT_DETAIL (contract_no, waste_type_id, waste_type_desc, contract_waste_type_collection_freq)

COLLECTION (collection_date, contract_no, waste_type_id, driver_no, driver_contact, truck_vin)

BIN_COLLECTION_RECORD (bin_rfid, collection_date, collected_kgs, overweight, contract_no, waste_type_id)

- Partial dependency:

waste_type_id -> waste_type_desc

2NF

CONTRACT_DETAIL (contract_no, waste_type_id, contract_collection_freq)

COLLECTION (collection_date, contract_no, waste_type_id, driver_no, driver_contact, truck_vin)

BIN_COLLECTION_RECORD (bin_rfid, collection_date, bin_collection_collected_kgs, bin_collection_overweight, contract_no, waste_type_id)

Waste_type (waste_type_id, waste_type_desc)

- Transitive dependency:

driver_no -> driver_contact

3NF

CONTRACT_DETAIL (contract_no, waste_type_id, contract_collection_freq)

COLLECTION (collection_date, contract_no, waste_type_id, driver_no, truck_vin)

BIN_COLLECTION_RECORD (bin_rfid, collection_date, bin_collection_collected_kgs,
bin_collection_overweight, contract_no, waste_type_id)

WASTE_TYPE (waste_type_id, waste_type_desc)

DRIVER (driver_no, driver_contact)

- Full Dependencies:

contract_no, waste_type_id -> contract_collection_freq

collection_date, contract_no, waste_type_id -> driver_no, truck_vin

waste_type_id -> waste_type_desc

driver_no -> driver_contact

Collected 3NF Relations

1. DRIVER (driver_no, driver_license_no, driver_name, driver_dob, driver_tax_no)
2. AUTHORISED_DRIVER (truck_vin, driver_no)
3. TRUCK (truck_vin, truck_rego_no, truck_make, truck_model, truck_year)
4. CONTRACT_DETAIL (contract_no, waste_type_id, contract_collection_freq)
5. COLLECTION (collection_date, contract_no, waste_type_id, driver_no, truck_vin)
6. BIN_COLLECTION_RECORD (bin_rfid, collection_date, bin_collection_collected_kgs,
bin_collection_overweight, contract_no, waste_type_id)
7. WASTE_TYPE (waste_type_id, waste_type_desc)
8. DRIVER (driver_no, driver_contact)

Attribute Synthesis

1. & 8.

DRIVER (driver_no, driver_license_no, driver_name, driver_dob, driver_tax_no, driver_contact)

2.

AUTHORISED_DRIVER (truck_vin, driver_no)

3.

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

4.

CONTRACT_DETAIL (contract_no, waste_type_id, contract_collection_freq)

5.

COLLECTION (collection_date, contract_no, waste_type_id, driver_no, truck_vin)

6.

BIN_COLLECTION_RECORD (bin_rfid, collection_date, bin_collection_collected_kgs, bin_collection_overweight, contract_no, waste_type_id)

7.

WASTE_TYPE (waste_type_id, waste_type_desc)