# Assignment 1B Normalisation

## Pet Ownership Details form

### UNF

OWNER(owner_id, owner_gname, owner_fname, owner_street, owner_town, owner_postcode, vet_id, vet_name, (animal_id, animal_gen, animal_name, animal_type, animal_dob, animal_deceased))


### 1NF

OWNER(<u>owner_id</u>, owner_gname, owner_fname, owner_street, owner_town, owner_postcode, vet_id, vet_name)

PET(<u>owner_id</u>, <u>animal_id</u>, animal_gen, animal_name, animal_type, animal_deceased)


partial dependencies:

animal_id → animal_gen, animal_name, animal_type, animal_deceased

### 2NF

OWNER(<u>owner_id</u>, owner_gname, owner_fname, owner_street, owner_town, owner_postcode, vet_id, vet_name)

PET_OWNER(<u>owner_id</u>, <u>animal_id</u>)

PET(<u>animal_id</u>, animal_gen, animal_name, animal_type,  animal_deceased)


Transitive Dependencies:

vet_id → vet_name


### FINAL 3NF

OWNER(owner_id, owner_gname, owner_fname, owner_street, owner_town, owner_postcode, vet_id)

PET_OWNER(owner_id, animal_id)

PET(animal_id, animal_gen, animal_name, animal_type, animal_deceased)

VET(vet_id, vet_name)


Full dependencies:

owner_id → owner_gname, owner_fname, owner_street, owner_town, owner_postcode, vet_id, animal_id

animal_id → animal_gen, animal_name, animal_type, animal_deceased

vet_id → vet_name


# Visit invoice form

## UNF

VISIT(patient_id, patient_name, vet_id, vet_name, visit_date (service_code, service_desc, service_cost), (drug_id, drug_name, drug_qty, drug_cost), pay_total, pay_by)


Removal of repeating groups:

VISIT(patient_id, visit_date, vet_id, visit_date, patient_name,vet_name, pay_total, pay_by)

SERVICE(service_code, service_desc, service_cost)

DRUG(drug_id, drug_name, drug_qty, drug_cost)


## 1NF

VISIT(patient_id, visit_date, vet_id, patient_name, vet_gname, vet_fname, pay_total, pay_by)

SERVICE(service_code, service_desc, service_cost)

DRUG(drug_id, drug_name, drug_qty, drug_cost)

Partial dependencies:

patient_id → patient_name

## 2NF

VISIT(<u>patient_id</u>, <u>visit_date</u>, vet_id, vet_gname, vet_fname, pay_total, pay_by)

SERVICE(<u>service_code</u>, service_desc, service_cost)

DRUG(<u>drug_id</u>, drug_name, drug_qty, drug_cost)

PATIENT(<u>patient_id</u>, patient_name

Transitive dependencies:

vet_id → vet_name

## 3NF

VISIT(<u>patient_id</u>, <u>visit_date</u>, vet_id, pay_total, pay_by)

SERVICE(<u>service_code</u>, service_desc, service_cost)

DRUG(<u>drug_id</u>, drug_name, drug_qty, drug_cost)

PATIENT(<u>patient_id</u>, patient_name

VET(<u>vet_id</u>, vet_gname, vet_fname,)

Full dependencies:

patient_id, visit_date → vet_id, pay_total, pay_by

service_code → service_desc, service_cost

drug_id → drug_name, drug_qty, drug_cost

patient_id → patient_name

vet_id → vet_gname, vet_fname

## Collected 3NF RELATIONS:

1. OWNER(<u>owner_id</u>, owner_gname, owner_fname, owner_street, owner_town, owner_postcode, vet_id)

2. PET_OWNER(<u>owner_id</u>, <u>animal_id</u>)

3. PET(<u>animal_id</u>, animal_gen, animal_name, animal_type, animal_deceased)

4. VET(<u>vet_id</u>, vet_gname, vet_fname)

5. VISIT(<u>patient_id</u>, <u>visit_date</u>, vet_id, pay_total, pay_by)

6. SERVICE(<u>service_code</u>, service_desc, service_cost)

7. DRUG(<u>drug_id</u>, drug_name, drug_qty, drug_cost)

8. PATIENT(<u>patient_id</u>, patient_name)

9. VET(<u>vet_id</u>, vet_gname, vet_fname)


## Attribute synthesis:

1. OWNER(<u>owner_id</u>, owner_gname, owner_fname, owner_street, owner_town, owner_postcode, vet_id)

2. PET_OWNER(<u>owner_id</u>, <u>animal_id</u>)

3. & 8. PET(<u>animal_id</u>, animal_gen, animal_name, animal_type, animal_deceased)

4. & 9. VET(<u>vet_id</u>, vet_gname, vet_fname)

5. VISIT(<u>patient_id</u>, <u>visit_date</u>, vet_id, pay_total, pay_by)

6. SERVICE(<u>service_code</u>, service_desc, service_cost)

7. DRUG(<u>drug_id</u>, drug_name, drug_qty, drug_cost)