Databases Assignment 1B Enoch Leow 30600022

Normalisation

* 1. Pet Ownership Details

**UNF**

OWNERSHIP(owner\_id, owner\_gname, owner\_fname, owner\_street, owner\_town, owner\_postcode, vet\_id, vet\_name, (pet\_id, pet\_gender, pet\_name, pet\_type, pet\_dob, pet\_deceased))

**1NF**

OWNERSHIP(owner\_id, owner\_gname, owner\_fname, owner\_street, owner\_town, owner\_postcode, vet\_id, vet\_name)

PET(pet\_id, owner\_id, pet\_gender, pet\_name, pet\_type, pet\_dob, pet\_deceased)

*No partial dependencies present*

**2NF**

OWNERSHIP(owner\_id, owner\_gname, owner\_fname, owner\_street, owner\_town, owner\_postcode, vet\_id, vet\_name)

PET(pet\_id, owner\_id, pet\_gender, pet\_name, pet\_type, pet\_dob, pet\_deceased)

*Transitive Dependencies*

vet\_id 🡪 vet\_name

**3NF**

OWNERSHIP(owner\_id, owner\_gname, owner\_fname, owner\_street, owner\_town, owner\_postcode, vet\_id)

PET(pet\_id, owner\_id, pet\_gender, pet\_name, pet\_type, pet\_dob, pet\_deceased)

VET(vet\_id, vet\_name)

*Full Dependencies*

owner\_id 🡪 owner\_gname, owner\_fname, owner\_street, owner\_town, owner\_postcode, vet\_id

pet\_id 🡪 owner\_id, pet\_gender, pet\_name, pet\_type, pet\_dob, pet\_deceased

vet\_id 🡪 vet\_name

* 1. Visit Invoice

**UNF**

APPOINTMENT(app\_datetime, vet\_id, pet\_id, pet\_name, app\_paymethod, app\_totalamount, vet\_name, (service\_code, service\_description, service\_cost), (drug\_id, drug\_name, drug\_qty, drug\_cost))

**1NF**

APPOINTMENT(app\_datetime, vet\_id, pet\_id, pet\_name, app\_paymethod, app\_totalamount, vet\_name)

PROCEDURE(app\_datetime, vet\_id, service\_code, service\_description, service\_cost)

PRESCRIPTION (app\_datetime, vet\_id, drug\_id, drug\_name, drug\_qty, drug\_cost)

*Partial Dependencies*

vet\_id 🡪 vet\_name

service\_code 🡪 service\_description, service\_cost

drug\_id 🡪 drug\_name, drug\_cost

**2NF**

APPOINTMENT(app\_datetime, vet\_id, pet\_id, pet\_name, app\_paymethod, app\_totalamount)

PROCEDURE(app\_datetime, vet\_id, service\_code)

SERVICE(service\_code, service\_description, service\_cost)

PRESCRIPTION(drug\_id, app\_datetime, vet\_id, drug\_qty)

DRUG(drug\_id, drug\_name, drug\_cost)

VET(vet\_id, vet\_name)

*Transitive Dependencies*

pet\_id 🡪 pet\_name

**3NF**

APPOINTMENT(app\_datetime, vet\_id, pet\_id, app\_paymethod, app\_totalamount)

PROCEDURE(app\_datetime, vet\_id, service\_code)

SERVICE(service\_code, service\_description, service\_cost)

PRESCRIPTION(drug\_id, app\_datetime, vet\_id, drug\_qty)

DRUG(drug\_id, drug\_name, drug\_cost)

VET(vet\_id, vet\_name)

PET(pet\_id, pet\_name)

*Full Dependencies*

app\_datetime, vet\_id 🡪 pet\_id, app\_paymentmethod, app\_totalamount

service\_code 🡪 service\_description, service\_cost

drug\_id, app\_datetime, vet\_id 🡪 drug\_qty

vet\_id 🡪 vet\_name

pet\_id 🡪 pet\_name

Collected 3NF Relations

1. APPOINTMENT(app\_datetime, vet\_id, pet\_id, app\_paymethod, app\_totalamount)
2. PROCEDURE(app\_datetime, vet\_id, service\_code)
3. SERVICE(service\_code, service\_description, service\_cost)
4. PRESCRIPTION(drug\_id, app\_datetime, vet\_id, drug\_qty)
5. DRUG(drug\_id, drug\_name, drug\_cost)
6. VET(vet\_id, vet\_name)
7. PET(pet\_id, pet\_name)
8. OWNERSHIP(owner\_id, owner\_gname, owner\_fname, owner\_street, owner\_town, owner\_postcode, vet\_id)
9. PET(pet\_id, owner\_id, pet\_gender, pet\_name, pet\_type, pet\_dob, pet\_deceased)
10. VET(vet\_id, vet\_name)

Attribute Synthesis

1.

APPOINTMENT(app\_datetime, vet\_id, pet\_id, app\_paymethod, app\_totalamount)

2.

PROCEDURE(app\_datetime, vet\_id, service\_code)

3.

SERVICE(service\_code, service\_description, service\_cost)

4.

PRESCRIPTION(drug\_id, app\_datetime, vet\_id, drug\_qty)

5.

DRUG(drug\_id, drug\_name, drug\_cost)

6 & 10.

VET(vet\_id, vet\_name)

7 & 9.

PET(pet\_id, owner\_id, pet\_gender, pet\_name, pet\_type, pet\_dob, pet\_deceased

8.

OWNERSHIP(owner\_id, owner\_gname, owner\_fname, owner\_street, owner\_town, owner\_postcode, vet\_id)