**FIT3171 Assignment 1B**

**ANIMAL DOCTORS PET OWNERSHIP DETAILS**

**UNF**

OWNER (owner\_id, owner\_givname, owner\_famname, owner\_addstreet, owner\_addtown, owner\_addpostcode, vet\_id, vet\_name, (pet\_id, pet\_gender, pet\_name, pet\_type, pet\_bdate, pet\_deceased))

*\* replacement of preferred vet details with vet details (a preferred vet is a vet) to prevent synonyms*

**1NF**

OWNER (owner\_id, owner\_givname, owner\_famname, owner\_addstreet, owner\_addtown, owner\_addpostcode, vet\_id, vet\_name)

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

Partial dependencies:

No partial dependencies present

**2NF**

OWNER (owner\_id, owner\_givname, owner\_famname, owner\_addstreet, owner\_addtown, owner\_addpostcode, vet\_id, vet\_name)

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

Transitive dependencies:

vet\_id 🡪 vet\_name

**3NF**

OWNER (owner\_id, owner\_givname, owner\_famname, owner\_addstreet, owner\_addtown, owner\_addpostcode, vet\_id)

VET (vet\_id, vet\_name)

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

Full dependencies:

owner\_id 🡪 owner\_givname, owner\_famname, owner\_addstreet, owner\_addtown, owner\_addpostcode, vet\_id

vet\_id 🡪 vet\_name

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

**ANIMAL DOCTORS INVOICE FOR PROFESSIONAL SERVICES**

**UNF**

VISIT (pet\_id, pet\_name, vet\_id, vet\_name, visit\_datetime, (service\_code, service\_desc, service\_cost), (drug\_id, drug\_name, drug\_qty, drug\_cost), visit\_totalcost, visit\_paidby)

*\* replacement of servicing vet details with vet details (a servicing vet is a vet), & patient details with pet details (a patient is a pet), to prevent synonyms*

**1NF**

VISIT (pet\_id, pet\_name, vet\_id, vet\_name, visit\_datetime, visit\_totalcost, visit\_paidby)

VISIT\_SERVICE (pet\_id, visit\_datetime, service\_code, service\_desc, service\_cost)

PRESCRIPTION (pet\_id, visit\_datetime, drug\_id, drug\_name, drug\_qty, drug\_cost)

Partial dependencies:

pet\_id 🡪 pet\_name

service\_code 🡪 service\_desc

drug\_id 🡪 drug\_name

**2NF**

VISIT (pet\_id, vet\_id, vet\_name, visit\_datetime, visit\_totalcost, visit\_paidby)

PET (pet\_id, pet\_name)

VISIT\_SERVICE (pet\_id, visit\_datetime, service\_code, service\_cost)

SERVICE (service\_code, service\_desc)

PRESCRIPTION (pet\_id, visit\_datetime, drug\_id, drug\_qty, drug\_cost)

DRUG (drug\_id, drug\_name)

Transitive dependencies:

vet\_id 🡪 vet\_name

**3NF**

VISIT (pet\_id, vet\_id, visit\_datetime, visit\_totalcost, visit\_paidby)

VET (vet\_id, vet\_name)

PET (pet\_id, pet\_name)

VISIT\_SERVICE (pet\_id, visit\_datetime, service\_code, service\_cost)

SERVICE (service\_code, service\_desc)

PRESCRIPTION (pet\_id, visit\_datetime, drug\_id, drug\_qty, drug\_cost)

DRUG (drug\_id, drug\_name)

Full dependencies:

pet\_id, visit\_datetime 🡪 vet\_id, visit\_totalcost, visit\_paidby

vet\_id 🡪 vet\_name

pet\_id 🡪 pet\_name

pet\_id, visit\_datetime, service\_code 🡪 service\_cost

service\_code 🡪 service\_desc

pet\_id, visit\_datetime, drug\_id 🡪 drug\_qty, drug\_cost

drug\_id 🡪 drug\_name

**COLLECTED 3NF RELATIONS:**

1. OWNER (owner\_id, owner\_givname, owner\_famname, owner\_addstreet, owner\_addtown, owner\_addpostcode, vet\_id)
2. VET (vet\_id, vet\_name)
3. PET (owner\_id, pet\_id, pet\_gender, pet\_name, pet\_type, pet\_bdate, pet\_deceased)
4. VISIT (pet\_id, vet\_id, visit\_datetime, visit\_totalcost, visit\_paidby)
5. VET (vet\_id, vet\_name)
6. PET (pet\_id, pet\_name)
7. VISIT\_SERVICE (pet\_id, visit\_datetime, service\_code, service\_cost)
8. SERVICE (service\_code, service\_desc)
9. PRESCRIPTION (pet\_id, visit\_datetime, drug\_id, drug\_qty, drug\_cost)
10. DRUG (drug\_id, drug\_name)

**ATTRIBUTE SYNTHESIS:**

**1**  
OWNER (owner\_id, owner\_givname, owner\_famname, owner\_addstreet, owner\_addtown, owner\_addpostcode, vet\_id)

**2 & 5 - merge**  
VET (vet\_id, vet\_name)

**3 & 6 - merge**  
PET (owner\_id, pet\_id, pet\_gender, pet\_name, pet\_type, pet\_bdate, pet\_deceased)

**4**  
VISIT (pet\_id, vet\_id, visit\_datetime, visit\_totalcost, visit\_paidby)

**7**  
VISIT\_SERVICE (pet\_id, visit\_datetime, service\_code, service\_cost)

After adding prefixes:

VISIT\_SERVICE (pet\_id, visit\_datetime, service\_code, visit\_service\_cost)

**8**  
SERVICE (service\_code, service\_desc)

**9**  
PRESCRIPTION (pet\_id, visit\_datetime, drug\_id, drug\_qty, drug\_cost)

After adding prefixes:

PRESCRIPTION (pet\_id, visit\_datetime, drug\_id, pres\_drug\_qty, pres\_drug\_cost)

**10**  
DRUG (drug\_id, drug\_name)