

## **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)

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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:

$\text{vet\_id} \rightarrow \text{vet\_name}$

### **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:

$\text{pet\_id}, \text{visit\_datetime} \rightarrow \text{vet\_id}, \text{visit\_totalcost}, \text{visit\_paidby}$

$\text{vet\_id} \rightarrow \text{vet\_name}$

$\text{pet\_id} \rightarrow \text{pet\_name}$

$\text{pet\_id}, \text{visit\_datetime}, \text{service\_code} \rightarrow \text{service\_cost}$

$\text{service\_code} \rightarrow \text{service\_desc}$

$\text{pet\_id}, \text{visit\_datetime}, \text{drug\_id} \rightarrow \text{drug\_qty}, \text{drug\_cost}$

$\text{drug\_id} \rightarrow \text{drug\_name}$

### **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)

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- 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)