Student Name: Kuan Jun Qiang

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Pet Ownership Details

UNF

OWNER (owner_ID, owner_givname, owner_famname, vet_ID, vet_givname, vet_famname owner_address, (animal_ID, animal_gender, animal_name, animal_type, animal_DOB, animal_deceased))

1NF

OWNER (<u>owner_ID</u>, owner_givname, owner_famname, vet_ID, vet_givname, vet_famname owner_address)

ANIMAL (<u>animal_ID</u>, owner_ID, animal_gender, animal_name, animal_type, animal_DOB, animal_deceased)

Partial dependencies:

> No partial dependencies present

2NF

OWNER (<u>owner_ID</u>, owner_givname, owner_famname, vet_ID, vet_famname, vet_givname, owner_address)

ANIMAL (<u>animal_ID</u>, owner_ID, animal_gender, animal_name, animal_type, animal_DOB, animal_deceased)

Transitive dependencies:

> vet_ID -> vet_famname, vet_givname

3NF

OWNER (<u>owner_ID</u>, owner_givname, owner_famname, vet_ID, owner_address)

VET (<u>vet_ID</u>, vet_givname, vet_famname)

ANIMAL (<u>animal_ID</u>, owner_ID, animal_gender, animal_name, animal_type, animal_DOB, animal_deceased)

Full dependencies:

> owner_ID -> owner_givname, owner_famname, vet ID, owner_address
>
> vet_ID -> vetgivname, vet_famname
>
> animal_ID -> animal_gender, animal_name, animal_type, animal_DOB, animal_deceased

VISIT INVOICE

UNF

VISIT (visit_datetime, animal_ID, animal_name, vet_ID, vet_famname, vet_givname (service_code, service_desc, service_cost), (drug_ID, drug_name, drug_quantity, drug_cost), total_amount_due, paid_by)

1NF

VISIT (<u>visit_datetime</u>, <u>animal_ID</u>, animal_name, vet_ID, vet_famname, vet_givname, total_amount_due, paid_by)

SERVICE_USED (<u>visit_datetime</u>, <u>animal_ID</u>, <u>service_code</u>, service_desc, service_cost)

DRUG_ASSIGNED (<u>visit_datetime</u>, <u>animal_ID</u>, <u>drug_ID</u>, drug_name, drug_quantity, drug_cost)

Partial dependencies:

        animal_ID -> animal_name

        service_code -> service_desc

        drug_ID -> drug_name

2NF

VISIT (<u>visit_datetime</u>, <u>animal_ID</u>, vet_ID, vet_famname, vet_givname, total_amount_due, paid_by)

ANIMAL (<u>animal_ID</u>, animal_name)

SERVICE_USED (<u>visit_datetime</u>, <u>animal_ID</u>, <u>service_code</u>, service_cost)

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

DRUG_ASSIGNED (<u>visit_datetime</u>, <u>animal_ID</u>, <u>drug_ID</u>, drug_quantity, drug_cost)

DRUG (<u>drug_ID</u>, drug_name)

Transitive dependencies:

        vet_ID -> vet_famname, vet_givname

3NF

VISIT (<u>visit_datetime</u>, <u>animal_ID</u>, vet_ID, total_amount_due, paid_by)

VET (<u>vet_ID</u>, vet_famname, vet_givname)

ANIMAL (<u>animal_ID</u>, animal_name)

SERVICE_USED (<u>visit_datetime</u>, <u>animal_ID</u>, <u>service_code</u>, service_cost)

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

DRUG_ASSIGNED (<u>visit_datetime</u>, <u>animal_ID</u>, <u>drug_ID</u>, drug_quantity, drug_cost)

DRUG (<u>drug_ID</u>, drug_name)

Full dependencies:

visit_datetime, animal_ID -> vet_ID, total_amount_due, paid_by

vet_ID -> vet_famname, vet_givname

animal_ID -> animal_name

visit_datetime, animal_ID, service_code -> service_cost

service_code -> service_desc

visit_datetime, animal_ID, drug_ID -> drug_quantity, drug_cost

drug_ID -> drug_name

COLLECTED 3NF RELATIONS:

1. **OWNER** (<u>owner_ID</u>, owner_givname, owner_famname, vet_ID, owner_address)
2. **VET** (<u>vet_ID</u>, vet_givname, vet_famname)
3. **ANIMAL** (<u>animal_ID</u>, owner_ID, animal_gender, animal_name, animal_type, animal_DOB, animal_deceased)
4. **VISIT** (<u>visit_datetime</u>, <u>animal_ID</u>, vet_ID, total_amount_due, paid_by)
5. **VET** (<u>vet_ID</u>, vet_famname, vet_givname)
6. **ANIMAL** (<u>animal_ID</u>, animal_name)
7. **SERVICE_USED** (<u>visit_datetime</u>, <u>animal_ID</u>, <u>service_code</u>, service_cost)
8. **SERVICE** (<u>service_code</u>, service_desc)
9. **DRUG_ASSIGNED** (<u>visit_datetime</u>, <u>animal_ID</u>, <u>drug_ID</u>, drug_quantity, drug_cost)
10. **DRUG** (<u>drug_ID</u>, drug_name)

ATTRIBUTE SYNTHESIS

1

OWNER (<u>owner_ID</u>, owner_givname, owner_famname, vet_ID, owner_address)

2 and 5

VET (<u>vet_ID</u>, vet_givname, vet_famname)

3 and 6

ANIMAL (<u>animal_ID</u>, owner_ID, animal_gender, animal_name, animal_type, animal_DOB, animal_deceased)

4

VISIT (<u>visit_datetime</u>, <u>animal_ID</u>, vet_ID, total_amount_due, paid_by)

7

SERVICE_USED (<u>visit_datetime</u>, <u>animal_ID</u>, <u>service_code</u>, service_cost)

8

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

9

DRUG_ASSIGNED (<u>visit_datetime</u>, <u>animal_ID</u>, <u>drug_ID</u>, drug_quantity, drug_cost)

10

DRUG (<u>drug_ID</u>, drug_name)