

1) Training Course Attendance Detail

UNF

TRAINING (train_id, train_title, train_duration, train_date, clinic_id, clinic_name, trainer_vet_id, trainer_vet_given_name, trainer_vet_fam_name, (vet_id, vet_home_clinic_id, vet_given_name, vet_fam_name, train_vet_completed, train_vet_expiry_date))

1NF

TRAINING (train_id, train_title, train_duration, train_date, clinic_id, clinic_name, trainer_vet_id, trainer_vet_given_name, trainer_vet_fam_name)

Candidate key:

- train_id

TRAINING_VET (train_id, vet_id, vet_home_clinic_id, vet_given_name, vet_fam_name, train_vet_completed, train_vet_expiry_date)

Candidate key:

- train_id, vet_id

Partial dependency:

- vet_id → vet_home_clinic_id, vet_given_name, vet_fam_name

2NF

TRAINING (train_id, train_title, train_duration, train_date, clinic_id, clinic_name, trainer_vet_id, trainer_vet_given_name, trainer_vet_fam_name)

TRAINING_VET (train_id, vet_id, train_vet_completed, train_vet_expiry_date)

VET (vet_id, vet_home_clinic_id, vet_given_name, vet_fam_name)

Transitive dependency:

- clinic_id → clinic_name
- Trainer_vet_id → trainer_vet_given_name, trainer_vet_fam_name

3NF

TRAINING (train_id, train_title, train_duration, train_date, clinic_id, trainer_vet_id)

TRAINING_VET (train_id, vet_id, train_vet_completed, train_vet_expiry_date)

VET (vet_id, vet_home_clinic_id, vet_given_name, vet_fam_name)

CLINIC (clinic_id, clinic_name)

TRAINER_VET (trainer_vet_id, trainer_vet_given_name, trainer_vet_fam_name)

Full dependency:

train_id → train_title, train_duration, train_date, clinic_id, trainer_vet_id

train_id, vet_id → train_vet_completed, train_vet_expiry_date

vet_id → vet_home_clinic_id, vet_given_name, vet_fam_name

clinic_id → clinic_name

Trainer_vet_id -> trainer_vet_given_name, trainer_vet_fam_name

2) Clinic Visit Notice

UNF

VISIT(pet_id, pet_name, vet_id, vet_given_name, vet_fam_name, owner_id, owner_given_name, owner_fam_name, visit_datetime, visit_totalcost, visit_payment_type, (service_code, service_desc, service_prov_linecost), (drug_id, drug_name, drug_pres_quan_supplied, drug_pres_linecost))

1NF

VISIT (vet_id, visit_datetime, pet_id, pet_name, vet_given_name, vet_fam_name, owner_id, owner_given_name, owner_fam_name, visit_totalcost, visit_payment_type)

Candidate Key:

- pet_id, visit_datetime
- Vet_id, visit_datetime

SERVICE_PROVIDED (service_code, vet_id, visit_datetime, service_desc, service_prov_linecost)

Candidate Key:

- Service_code, vet_id, visit_datetime

DRUG_PRESCRIPTION (drug_id, vet_id, visit_datetime, drug_name, drug_pres_quan_supplied, drug_pres_linecost)

Candidate Key:

- Drug_id, vet_id, visit_datetime
-

Partial Dependencies:

- pet_id -> pet_name
- vet_id -> vet_given_name, vet_fam_name
- service_code -> service_desc
- Drug_id -> drug_name

2NF

PET (pet_id, pet_name)

VET (vet_id, vet_given_name, vet_fam_name)

SERVICE (service_code, service_desc)

VISIT (vet_id, visit_datetime, pet_id, owner_id, owner_given_name, owner_fam_name, visit_totalcost, visit_payment_type)

DRUG_PRESCRIPTION (drug_id, vet_id, visit_datetime, drug_pres_quan_supplied, drug_pres_linecost)

SERVICE_PROVIDED (service_code, vet_id, visit_datetime, service_prov_linecost,)

DRUG (drug_id, drug_name)

Transitive Dependencies:

- owner_id -> owner_given_name, owner_fam_name

3NF

PET (pet_id, pet_name)

VET (vet_id, vet_given_name, vet_fam_name)

DRUG (drug_id, drug_name)

OWNER (owner_id, owner_given_name, owner_fam_name)

SERVICE (service_code, service_desc)

VISIT (vet_id, visit_datetime, owner_id, pet_id, visit_totalcost, visit_payment_type))

SERVICE_PROVIDED (service_code, vet_id, visit_datetime, service_prov_linecost)

DRUG_PRESCRIPTION (drug_id, vet_id, visit_datetime, drug_pres_quan_supplied,
drug_pres_linecost)

Full dependencies:

pet_id -> pet_name

Vet_id -> vet_given_name, vet_fam_name

Drug_id -> drug_name

Owner_id -> owner_given_name, owner_fam_name

Service_code -> service_desc,

Vet_id, visit_datetime -> pet_id, owner_id, visit_totalcost, visit_payment_type

Service_code, vet_id, visit_datetime -> service_prov_linecost

Drug_id, vet_id, visit_datetime -> visit_totalcost, visit_payment_type)

3NF Collected Relations:

1. TRAINING (train_id, train_title, train_duration, train_date, clinic_id, trainer_vet_id)
2. TRAINING_VET (train_id, vet_id, train_vet_completed, train_vet_expiry_date)
3. TRAINER_VET (trainer_vet_id, trainer_vet_given_name, trainer_vet_fam_name)
4. VET (vet_id, vet_home_clinic_id, vet_given_name, vet_fam_name)
5. CLINIC (clinic_id, clinic_name)
6. DRUG (drug_id, drug_name)
7. OWNER (owner_id, owner_given_name, owner_fam_name)
8. PET (pet_id, pet_name)
9. VET (vet_id, vet_given_name, vet_fam_name)
10. SERVICE (service_code, service_desc)
11. VISIT (vet_id, visit_datetime, pet_id, owner_id, visit_totalcost, visit_payment_type)
12. DRUG_PRESCRIPTION (drug_id, vet_id, visit_datetime, drug_pres_quan_supplied, drug_pres_linecost)
13. SERVICE_PROVIDED (service_code, vet_id, visit_datetime, service_prov_linecost,)

Attribute Synthesis:

3,4,9

VET (vet_id, vet_home_clinic_id, vet_given_name, vet_fam_name)

TRAINING (train_id, train_title, train_duration, train_date, clinic_id, trainer_vet_id)

TRAINING_VET (train_id, vet_id, train_vet_completed, train_vet_expiry_date)

CLINIC (clinic_id, clinic_name)

PET (pet_id, pet_name)

SERVICE (service_code, service_desc)

OWNER (owner_id, owner_given_name, owner_fam_name)

DRUG (drug_id, drug_name)

VISIT (vet_id, visit_datetime, pet_id, owner_id, visit_totalcost, visit_payment_type)

DRUG_PRESCRIPTION (drug_id, vet_id, visit_datetime, drug_pres_quan_supplied,
drug_pres_linecost]

SERVICE_PROVIDED (service_code, vet_id, visit_datetime, service_prov_linecost)