

NORMALISATION

1. ADMISSION PROCEDURE CHARGE SHEET :

UNF :

ADMISSION (pat_id, patient_name, adm_date_time, supervising_doctor_id, supervising_doctor_name, (procedure_code, procedure_name, requested_by_id, requested_by_name, carried_out_by_id, carried_out_by_name, carr_out_on, procedure_charge, total_extras_charge, (item_code, item_description, quantity, total_item_charge)))

1NF:

ADM (pat_id, adm_date_time, patient_name, supervising_doctor_id, supervising_doctor_name)

- PARTIAL DEPENDENCY: pat_id → patient_name
- TRANSITIVE DEPENDENCY: supervising_doc_id → supervising_doc_name
- FULL DEPENDENCY: pat_id, adm_date_time → supervising_doctor_id

ADM-PRO (pat_id, adm_date_time, carr_out_on, procedure_code, procedure_name, requested_by_id, requested_by_name, carried_out_by_id, carried_out_by_name, procedure_charge, total_extras_charges)

- TRANSITIVE DEPENDENCY: procedure_code → procedure_name
requested_by_id → requested_by_name
carried_out_by_id → carried_out_by_name
- FULL DEPENDENCY: pat_id, adm_date_time, carr_out_on →
procedure_code, requested_by_id, carried_out_by_id,
procedure_charge, total_extra_charges

ITEM-REQ (pat_id, adm_date_time, carr_out_on, item_code, item_description, quantity, total_item_charge)

- PARTIAL DEPENDENCY: item_code → item_description
- FULL DEPENDENCY: pat_id, adm_date_time, procedure_code,
carr_out_on, item_code → quantity, total_item_charge

2NF:

ADM (pat_id, adm_date_time, supervising_doctor_id, supervising_doctor_name)

PATIENT (pat_id, patient_name)

ADM-PRO (pat_id, adm_date_time, carr_out_on, procedure_code, procedure_name, requested_by_id, requested_by_name, carried_out_by_id, carried_out_by_name, procedure_charge, total_extras_charges)

ITEM-REQ (pat_id, adm_date_time, carr_out_on, item_code, quantity, total_item_charge)

ITEM (item_code, item_description)

3NF:

ADM (pat_id, adm_date_time, supervising_doctor_id)

PATIENT (pat_id, patient_name)

SUPERVISER (supervising_doctor_id, supervising_doctor_name)

ADM-PRO (pat_id, adm_date_time, carr_out_on, procedure_code, requested_by_id, carried_out_by_id, procedure_charge, total_extras_charges)

PROCEDURE (procedure_code, procedure_name)

REQUESTED_BY (requested_by_id, requested_by_name)

CARRIED_OUT_BY (carried_out_by_id, carried_out_by_name)

ITEM-REQ (pat_id, adm_date_time, carr_out_on, item_code, quantity, total_item_charge)

ITEM (item_code, item_description)

ATTRIBUTE SYNTHESIS:

Since the attributes of SUPERVISER, REQUESTED_BY and CARRIED_OUT_BY are all related to the different roles of doctor, therefore it can be replaced with the entity DOCTOR having attributes as doctor_id and doctor_name.

COLLECTED 3NF RELATIONS:

ADM (pat_id, adm_date_time, supervising_doctor_id)

PATIENT (pat_id, patient_name)

DOCTOR (doctor_id, doctor_name)

ADM-PRO (pat_id, adm_date_time, carr_out_on, procedure_code, requested_by_id, carried_out_by_id, procedure_charge, total_extras_charges)

PROCEDURE (procedure_code, procedure_name)

ITEM-REQ (pat_id, adm_date_time, carr_out_on, item_code, quantity, total_item_charge)

ITEM (item_code, item_description)

2. NURSE WARD ASSIGNMENT FORM :**UNF:**

NURSE-WARD (nurse_id, nurse_firstname, nurse_lastname, nurse_contact, nurse_certified, (ward_code, ward_name, ward_assigned_date, ward_date_completed))

1NF:

NURSE (nurse_id, nurse_firstname, nurse_lastname, nurse_contact, nurse_certified)

- FULL DEPENDENCY: nurse_id → nurse_firstname, nurse_lastname, nurse_contact, nurse_certified

WARD-ASSIGN (nurse_id, ward_assigned_date, ward_code, ward_name, ward_date_completed)

- TRANSITIVE DEPENDENCY: ward_code → ward_name
- FULL DEPENDENCY: nurse_id, ward_assigned_date → ward_code, ward_date_completed

2NF: (Same as 1NF because there are no partial dependencies)

NURSE (nurse_id, nurse_firstname, nurse_lastname, nurse_contact, nurse_certified)

WARD-ASSIGN (nurse_id, ward_assigned_date, ward_code, ward_name, ward_date_completed)

3NF:

NURSE (nurse_id, nurse_firstname, nurse_lastname, nurse_contact, nurse_certified)

WARD-ASSIGN (nurse_id, ward_assigned_date, ward_code, ward_date_completed)

WARD (ward_code, ward name)