

UNF

**ADMISSION:** (patient\_id, date of admission, time\_of\_admission, patient\_name, sup\_doctor\_id, sup\_doctor\_name, (procedure\_code, procedure\_name, Req\_id, req\_name, carri\_id, carri\_name, carri\_date, carri\_time, procedure\_charge, (item\_code, item\_descri, item\_quan, total\_item\_charge), extra\_charge))

1NF

**ADMISSION:** (patient\_id, date of admission, time of admission, patient\_name, sup\_doctor\_id, sup\_doctor\_name)

**PROCEDURE:** (patient\_id, carri\_date, carri\_time, procedure\_code, procedure\_name, req\_id, req\_name, carri\_id, carri\_name, procedure\_charge, extra\_charge)

**ADDITIONAL ITEM:** (procedure\_code, item\_code, item\_quan, item\_descri, total\_item\_charge)

Dependency diagram:

patient\_id → patient\_name (PARTIAL)

item\_code → item\_descri (PARTIAL)

patient\_id, date\_of\_admission, time\_of\_admission → patient\_name, sup\_doctor\_id, sup\_doctor\_name (FULL)

carri\_date, carri\_time, patient\_id → procedure\_code, procedure\_name, req\_id, req\_name, carri\_id, carri\_name, procedure\_charge, extra\_charge (FULL)

item\_quan, procedure\_code, item\_code → item\_descri, total\_item\_charge (FULL)

sup\_doctor\_id → sup\_doctor\_name (TRANSITIVE)

req\_id → req\_name (TRANSITIVE)

carri\_id → carri\_name (TRANSITIVE)

procedure\_code → procedure\_name (TRANSITIVE)

2NF:

**ADMISSION:** (patient\_id, date of admission, time of admission, sup\_doctor\_id, sup\_docotor\_name)

**PROCEDURE:** (carri\_date, carri\_time, patient\_id, procedure\_code, req\_id, req\_name, carri\_id, carri\_name, procedure\_charge, extra\_charge)

**ADDITIONAL ITEM:** (item\_quan, procedure\_code, item\_code, total\_item\_charge)

**PATIENT:** (patient\_id, patient\_name)

**ITEM DERAIS:** (item\_code, item\_descri)

3NF:

**ADMISSION:** (patient\_id, date\_of\_admission, time\_of\_admission, sup\_doctor\_id)

**PROCEDURE:** (patient\_id, carri\_date, carri\_time, procedure\_code, req\_id, carri\_id, carri\_date, carri\_time, procedure\_charge, extra\_charge)

**ADDITIONAL ITEM:** (item\_quant, procedure\_code, item\_code, total\_item\_charge)

**PATIENT:** (patient\_id, patient\_name)

**ITEM DETAILS:** (item\_code, item\_desci)

**SUPERVISING DOCTOR:** (sup\_doctor\_id, sup\_doctor\_name)

**REQUESTED DOCTOR:** (req\_id, req\_name)

**CARRIED OUT DOCTOR:** (carri\_id, carri\_name)

**PROCEDURE DETAILS:** (procedure\_code, procedure\_name)

UNF

**NURSE** (nurse\_id, first\_name, last\_name, contact\_phone, certified, (ward\_code, ward\_name, data\_assigned, data\_completed))

1NF

**NERSE:** (nurse\_id, first\_name, last\_name, contact\_phone, certified)

**WARD\_ASSIGN:** (nurse\_id, ward\_code, date\_assigned, ward\_name, date\_completed)

Dependency diagram:

nurse\_id → first\_name, last\_name, contact\_phone, certified (FULL)

nurse\_id, ward\_code, date\_assigned → ward\_name, date\_completed (FULL)

ward\_code → ward\_name (PRATIAL)

2NF

**NERSE:** (nurse\_id, first\_name, last\_name, contact\_phone, certified)

**WARD\_ASSIGN:** (nurse\_id, ward\_code, date\_assigned, date\_completed)

**WARD:** (ward\_code, ward\_name)

3NF

**NERSE:** (nurse\_id, first\_name, last\_name, contact\_phone, certified)

**WARD\_ASSIGN:** (nurse\_id, ward\_code, date\_assigned, date\_completed)

**WARD:** (ward\_code, ward\_name)

Because the requirement doctor, carried out doctor and supervising doctor are same with doctor id. I write them in the same entity(doctor).

Because patient name and doctor name can be divided as patient\_lastname, patient\_firstname, doctor\_lastname and doctor\_firstname.

FINAL 3NF

**NURSE:** (nurse\_id, first\_name, last\_name, contact\_phone, certified)

**WARD\_ASSIGN:** (nurse\_id, ward\_code, date\_assigned, date\_completed)

**WARD:** (ward\_code, ward\_name)

**ADMISSION:** (patient\_id, date\_of\_admission, time\_of\_admission, sup\_doctor\_id)

**PROCEDURE:** (patient\_id, carri\_date, carri\_time, procedure\_code, req\_id, carri\_id, carri\_date, carri\_time, procedure\_charge, extra\_charge)

**ADDITIONAL ITEM:** (item\_code, procedure\_code, item\_code, total\_item\_charge)

**PATIENT:** (patient\_id, patient\_name)

**ITEM DETAILS:** (item\_code, item\_descri)

**DOCTOR** (doctor\_id, doctor\_lastname, doctor\_firstname)

**PROCEDURE DETAILS:** (procedure\_code, procedure\_name)