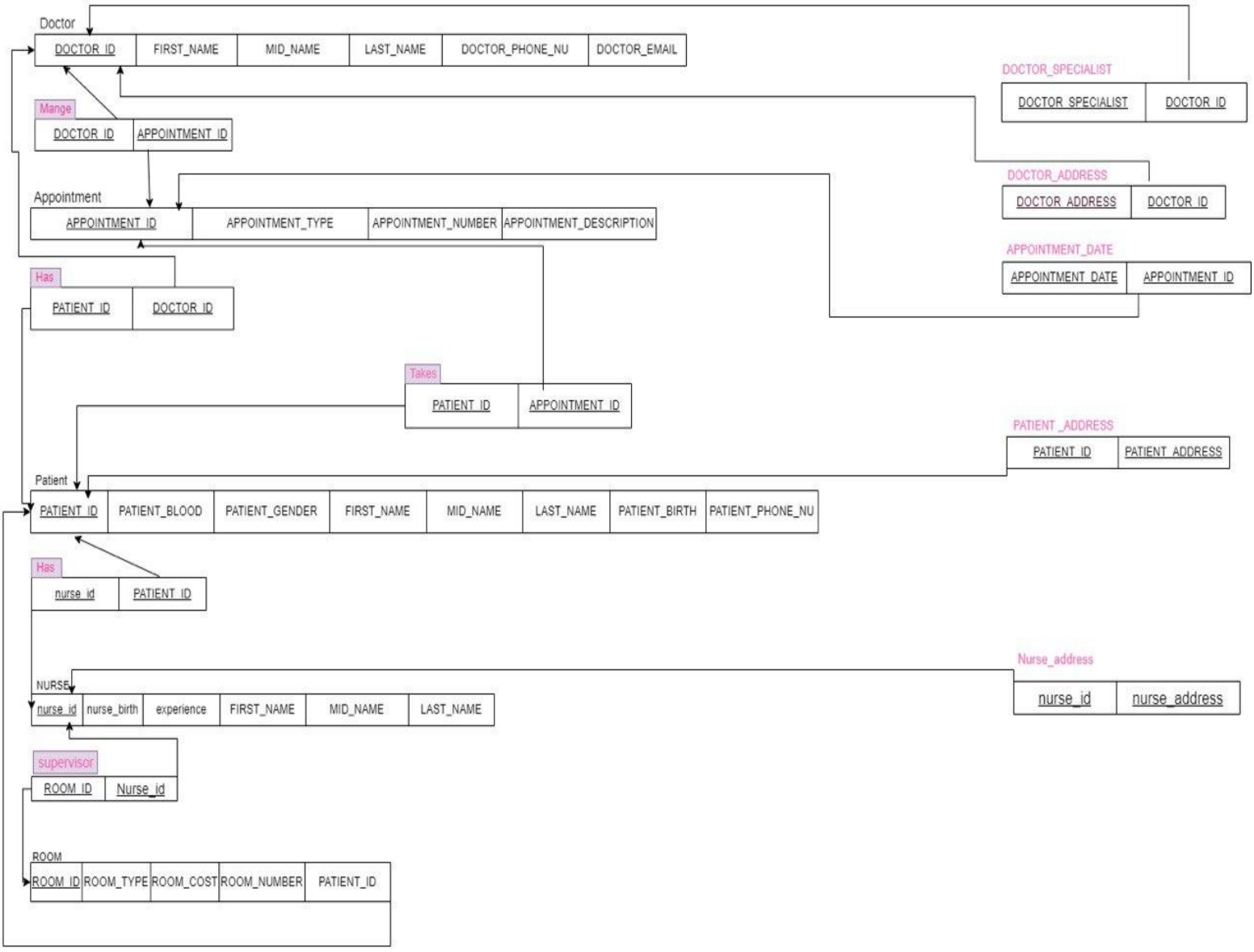
العنود صالح الأخضر
3951671
طيف خضر الزلفي
3950489
{C8F}
د. ندى الحربي


Doctor
DOCTOR_ID
FIRST_NAME
MID_NAME
LAST_NAME
DOCTOR_PHONE_NU
DOCTOR_EMAIL
DOCTOR_SPECIALIST
DOCTOR_SPECIALIST
DOCTOR_ID
Mange
DOCTOR_ID
APPOINTMENT_ID
DOCTOR_ADDRESS
DOCTOR_ADDRESS
DOCTOR_ID
Appointment
APPOINTMENT_ID
APPOINTMENT_TYPE
APPOINTMENT_NUMBER
APPOINTMENT_DESCRIPTION
APPOINTMENT_DATE
APPOINTMENT_DATE
APPOINTMENT_ID
Has
PATIENT_ID
DOCTOR_ID
Takes
PATIENT_ID
APPOINTMENT_ID
PATIENT_ADDRESS
PATIENT_ID
PATIENT_ADDRESS
Patient
PATIENT_ID
PATIENT_BLOOD
PATIENT_GENDER
FIRST_NAME
MID_NAME
LAST_NAME
PATIENT_BIRTH
PATIENT_PHONE_NU
Has
nurse_id
PATIENT_ID
Nurse_address
NURSE
nurse_id
nurse_birth
experience
FIRST_NAME
MID_NAME
LAST_NAME
nurse_id
nurse_address
supervisor
ROOM_ID
Nurse_id
ROOM
ROOM_ID
ROOM_TYPE
ROOM_COST
ROOM_NUMBER
PATIENT_ID

{m,m}

Doctor (Doctor id, Doctor phone no, Doctor name , Doctor email)
Primary key Doctor id
Alternate Key Null
Appointment (Appointment id, Appointment type, Appointment number, Appointment Description)
Primary Key Appointment id
Alternate Key Null

Mange (Doctor id ,Appointment id)
Primary Key Doctor id ,Appointment id
ON DELETE REJECT, ON UPDATE CASCADE
Foreign Key Doctor id references Doctor
ON DELETE CASCADE, ON UPDATE CASCADE
Foreign Key Appointment id references Appointment

Appointment (Appointment id, Appointment type, Appointment number, Appointment Description)
Primary Key Appointment id
Alternate Key Null
Patient (Patient id , Patient blood , Patient gender , Patient name , Patient birthday, Patient phone nu)
Primary Key Patient id
Alternate Key Null

Takes(Appointment id , Patient id)
Primary Key Patient id, Appointment id
Foreign Key Appointment id references Appointment
ON DELETE REJECT, ON UPDATE CASCADE
Foreign Key Patient id references Patient
ON DELETE CASCADE, ON UPDATE CASCADE

Doctor (Doctor id, Doctor phone no, Doctor name , Doctor email)
Primary key Doctor id
Alternate Key Null
Patient (Patient id , Patient blood , Patient gender , Patient name , Patient birthday, Patient phone nu)
Primary Key Patient id
Alternate Key Null

Has (Doctor id , Patient id)
Primary key Doctor id , Patient id
Foreign Key Doctor id references Doctor
ON DELETE CASCADE, ON UPDATE CASCADE
Foreign Key Patient id references Patient
ON DELETE REJECT, ON UPDATE CASCADE

Patient (Patient id , Patient blood , Patient gender , Patient name , Patient birthday, Patient phone nu)
Primary Key Patient id
Alternate Key Null
Nurse (Nurse id , Nurse name , Nurse birthday , Nurse experience)
Primary Key Nurse id

Alternate Key Null

Has(Patient id , Nurse id)
Primary Key Patient id , Nurse id
Foreign Key Patient id references Patient
ON DELETE REJECT, ON UPDATE CASCADE
Foreign Key Nurse id references Nurse
ON DELETE CASCADE, ON UPDATE CASCADE

Room (Room id , Room type , Room cost , Room number)
Primary Key Room id
Alternate Key Null
Nurse (Nurse id , Nurse name , Nurse birthday , Nurse experience)
Primary Key Nurse id
Alternate Key Null

Supervisor(Room id, Nurse id)
Primary Key Room id, Nurse id
Foreign Key Room id references Room
ON DELETE REJECT, ON UPDATE CASCADE
Foreign Key Nurse id references Nurse
ON DELETE CASCADE, ON UPDATE CASCADE

{1,m}

Room (Room id , Room type , Room cost , Room number , Patient id)
Primary Key Room id
Foreign Key Patient id references Patient
ON DELETE CASCADE, ON UPDATE CASCADE
Patient (Patient id , Patient blood , Patient gender , Patient name , Patient birthday, Patient phone nu)
Primary Key Patient id

Doctor Specialtie (Doctor id , Doctor Specialtie)
Primary Key Doctor id
Primary Key Doctor Specialtie
Foreign Key Doctor id references Doctor
ON DELETE CASCADE, ON UPDATE CASCADE

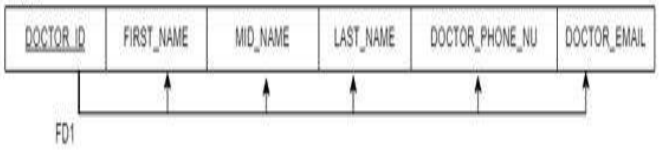
Doctor address (Doctor id, Doctor address)
Primary Key Doctor id
Primary Key Doctor address
Foreign Key Doctor id references Doctor
ON DELETE CASCADE, ON UPDATE CASCADE

Appointment Date (Appointment id, Appointment date)
Primary Key Appointment id
Primary Key Appointment date
Foreign Key Appointment id references Appointment
ON DELETE REJECT, ON UPDATE CASCADE

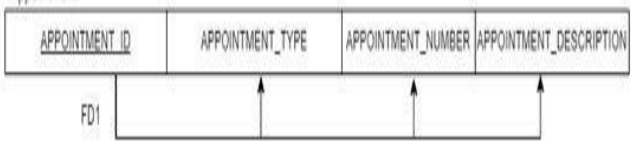
Patient address (Patient id , Patient address)
Primary Key Patient id
Primary Key Patient address
Foreign Key Patient id references Patient
ON DELETE REJECT, ON UPDATE CASCADE

Nurse address (Nurse id, Nurse address)
Primary Key Nurse id
Primary Key Nurse address
Foreign Key Nurse id references Nurse
ON DELETE CASCADE , ON UPDATE CASCADE

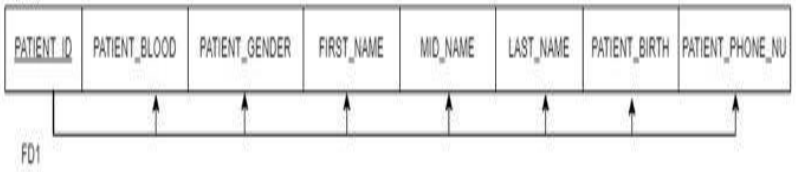
Doctor



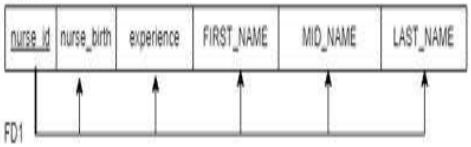
Appointment



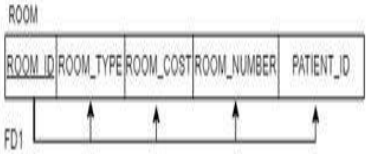
Patient



NURSE



ROOM



Mange

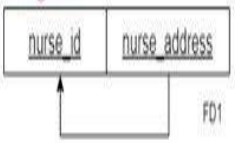
Has

Takes

Has

supervisor

Nurse_address

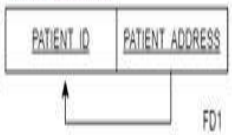


DOCTOR_SPECIALIST

DOCTOR_ADDRESS

APPOINTMENT_DATE

PATIENT_ADDRESS



2. NORMALIZATION

FOR THE ABOVE WHOLE SCHEMA :

2.1 FIRST NORMAL FORM (1NF):

A relation (table) is in 1NF if (and only if) the domain of each attribute contains only atomic (indivisible) values, and the value of each attribute contains only a single value from that domain.

THEN WE ALREADY IN 1NF.

2.2 SECONDE NORMAL FORM (2NF):

A relation is in 2NF if it is in 1NF and every non-prime attribute of the relation is dependent on the whole of every candidate key.

THEN WE ALREADY IN 2NF.

2.3 THIRD NORMAL FORM (3NF):

A relation is in 3NF if it is in 2NF and every non-prime attribute of the relation is non-transitively dependent on every key of the relation.

THEN WE ALREADY IN 3NF.

2.4 Boyce-Codd Normal Form (BCNF):

BCNF is a subtle enhancement on 3NF. A relation is in Boyce–Codd normal form if and only if for every one of its dependencies $X \rightarrow Y$, at least one of the following conditions hold:

$X \rightarrow Y$ is a trivial functional dependency ($Y \subseteq X$)

X is a super key for schema R>

THEN WE ALREADY IN BCNF.