DATABASE MANAGEMENT SYSTEM
SUBJECT CODE: IT202
LAB FILE

SUBMITTED BY:

URVASHI SINHA(2K21/IT/185)

VAIBHAV PRATAP SINGH(2K21/IT/189)

VARUN KUMAR(2K21/IT/191)

SUBMITTED TO:

DR. VARSHA SISAUDIA

DEPARTMENT OF INFORMATION TECHNOLOGY

DELHI TECHNOLOGICAL UNIVERSITY
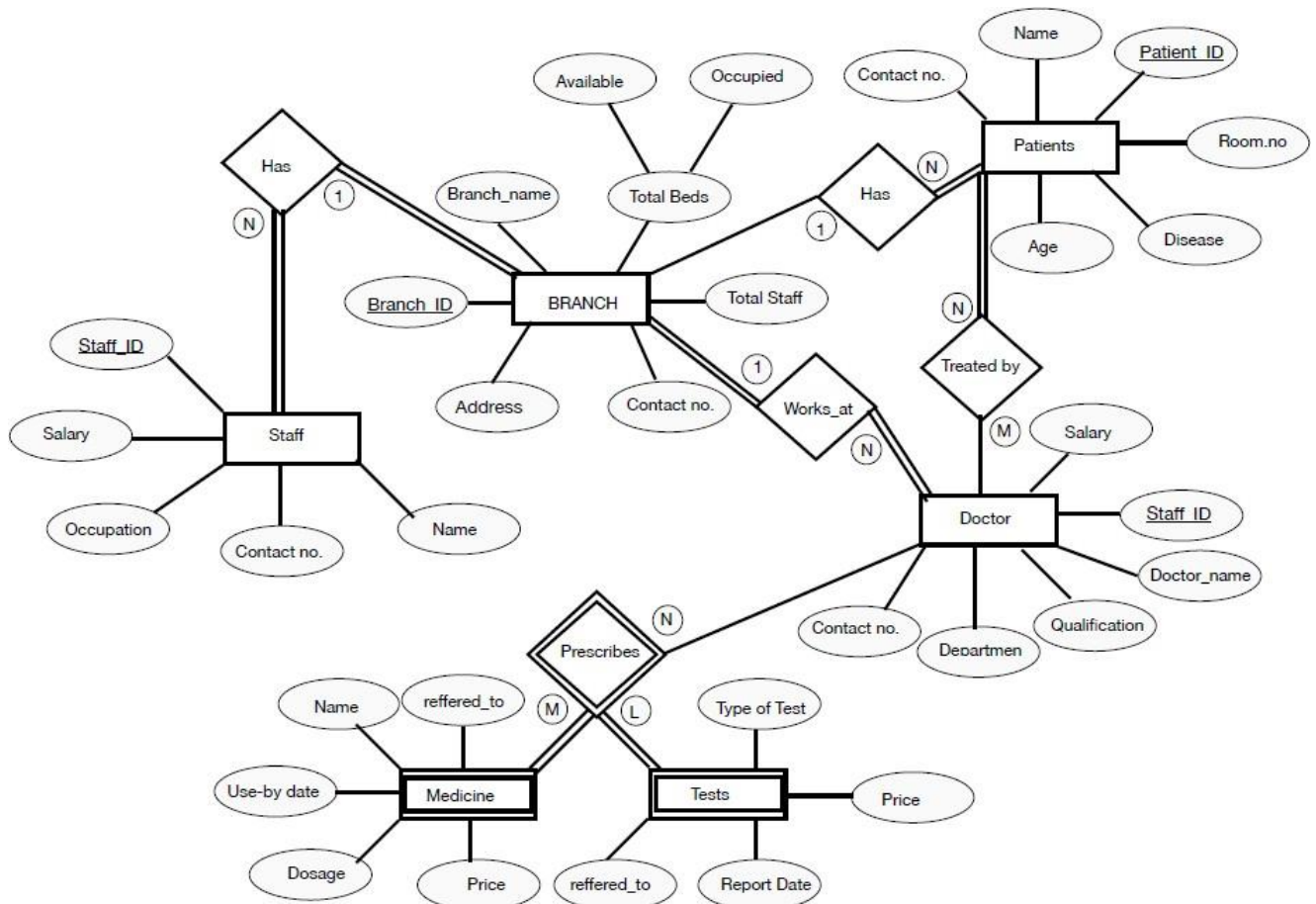
(FORMERLY DELHI COLLEGE OF ENGINEERING)

BAWANA ROAD, DELHI-110042

PROBLEM STATEMENT

Enfolding Hands Hospital believe in providing world class facilities to their customers as we generally in the hospitals there is infamously long queues to schedule an appointment or to collect the reports of a certain diagnosis etc. So in order to provide more facilities to the patients they want to build a system which provides all the necessary information such as number of beds available at the moment, in case of emergency you can directly book an ambulance and gives all the basic information about the hospital plus offers role based access so that the information provided to the user helps them access their data effectively and can also support online appointment booking. To support all of this the hospital will require a database which include the detail of hospital such as Name, ID (Unique),address, contact number, beds available along with this it should store all the information about the employees ID(unique), Name, contact no., Salary , Information about the patients such as Patient ID, Patient Name, Contact no, address , age , diagnosis etc , Doctors ID, Dept, Name, contact, qualification, Experience. It should also be able to handle all the details regarding the pharmacy and laboratory such as medicines available , their expiry date , price, quantity and test reports details such as test results etc. and also should handle the bill desk in order to store all the information about the payments, dues etc by keeping track of Bills ,ID, patients admission/discharge date etc.

So in order to make hospital visit seamless and hassle free and also allowing access to the patients to check their details remotely would be a great effort to reduce data inaccuracy it helps in data security and accessibility and overall providing a better experience.

ER DIAGRAM

RELATIONAL SCHEMA

Branch

Branch_id	Branch_name	Address	Contact_no	Total_staff	Available_beds	Occupied_beds

Staff

Staff_id	Name	Salary	Contact_no	Occupation	Branch_id

Patients

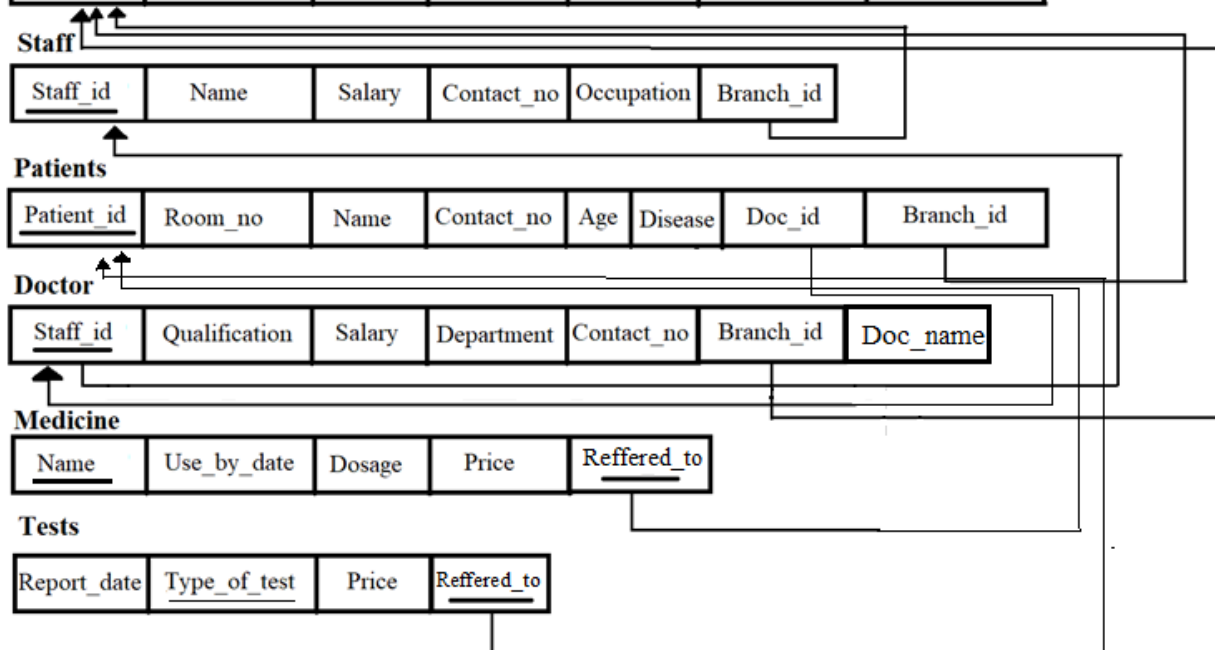| Patient_id	Room_no	Name	Contact_no	Age	Disease	Doc_id	Branch_id

Doctor

Staff_id	Qualification	Salary	Department	Contact_no	Branch_id	Doc_name

Medicine

Name	Use_by_date	Dosage	Price	Reffered_to

Tests

Report_date	Type_of_test	Price	Reffered_to

CREATING AND POPULATING DATABASE

```sql
CREATE TABLE BRANCH (
BRANCH_ID INT NOT NULL,
BRANCH_NAME VARCHAR(50) NOT NULL,
ADDRESS VARCHAR(50) NOT NULL,
CONTACT_NO INT NOT NULL ,
TOTAL_STAFF INT ,
AVAILABLE_BEDS INT,
OCCUPIED_BEDS INT,
PRIMARY KEY(BRANCH_ID),
UNIQUE (CONTACT_NO,ADDRESS)
);

create table staff(
staff_id INT NOT NULL,
staff_name varchar(20) NOT NULL,
salary INT NOT NULL,
contact_no INT NOT NULL,
occupation varchar(20) NOT NULL,
branch_id INT  NOT NULL,
primary key(staff_id),
foreign key(branch_id) references BRANCH(branch_id)
);

create table doctor(
staff_id INT NOT NULL,
doc_name VARCHAR(20) NOT NULL,
qualication VARCHAR(20) NoT NULL,
salary INT NOT NULL,
department varchar(20) NOT NULL,
contact_no INT NOT NULL,
branch_id INT NOT NULL,
PRIMARY KEY(staff_id),
UNIQUE(contact_no),
FOREIGN KEY(staff_id) REFERENCES staff(staff_id)
);

CREATE TABLE PATIENTS(
PATIENT_ID INT NOT NULL,
ROOM_NO INT ,
PATIENT_NAME VARCHAR(20) NOT NULL,
PATIENT_CONTACT_NO INT NOT NULL,
AGE INT NOT NULL,
DISEASE VARCHAR(10) NOT NULL,
DOC_ID INT NOT NULL,
BRANCH_ID INT NOT NULL,
PRIMARY KEY(PATIENT_ID),
UNIQUE(PATIENT_CONTACT_NO),
FOREIGN KEY(BRANCH_ID) REFERENCES BRANCH(BRANCH_ID),
FOREIGN KEY(DOC_ID) REFERENCES DOCTOR(STAFF_ID)
);
```

```sql
create table tests(
type_of_test VARCHAR(20),
reffered_to INT NOT NULL,
price INT,
report_date date NOT NULL,
primary key(type_of_test,reffered_to),
foreign key(reffered_to) references patients(patient_id)
);

CREATE TABLE MEDICINE(
MEDNAME VARCHAR(10) NOT NULL,
USE_BY_DATE DATE NOT NULL,
DOSAGE VARCHAR(10) NOT NULL,
PRICE INT NOT NULL,
REFFERED_TO INT NOT NULL,
PRIMARY KEY(MEDNAME,REFFERED_TO),
FOREIGN KEY(REFFERED_TO) REFERENCES PATIENTS(PATIENT_ID)
);

Use Hospital;
INSERT INTO BRANCH values(1254,"Aster DM Healthcare","147-g,M Paramanand Marg,
Girgaon",1048864340,17,66,23);
INSERT INTO BRANCH values(1228,"Care Hospitals","2/34, Double Storey,Jangpura
Extn",1062682735,37,87,43);
INSERT INTO BRANCH values(1694,"Command Hospital","288 Abdul Rehman
Street",1050136959,101,32,17);
INSERT INTO BRANCH values(1344,"Global Hospitals Group","125 New Apollo Estate, Mogra Lane,
Andheri (east)",1031258867,67,435,290);
INSERT INTO BRANCH values(1022,"LifeSpring Hospitals","144 145, Main Market, Gurgaon,
Gurgaon",1091540067,87,235,210);

INSERT INTO STAFF values(101,"Abhijeet Chandan",92760,79763375,"Doctor",1254);
INSERT INTO STAFF values(102,"Shanti Vasundhara",96830,23564891,"Doctor",1344);
INSERT INTO STAFF values(103,"Sumati Jayanta",69040,45784806,"Patient services",1254);
INSERT INTO STAFF values(104,"Kapil Indra",87000,30834793,"IT",1254);
INSERT INTO STAFF values(105,"Parth Prasanna",69220,80264363,"Patient services",1694);
INSERT INTO STAFF values(106,"Jyotsana Ratna",61180,26082456,"Porters ",1022);
INSERT INTO STAFF values(107,"Bhaskar Kalpana",32980,64209751,"Clinical assistants",1694);
INSERT INTO STAFF values(108,"Navneet Sarika",38190,59769011,"Nurse",1228);
INSERT INTO STAFF values(109,"Mukul Girish",24670,29260000,"Pharmacist",1228);
INSERT INTO STAFF values(110,"Sumeet Rakesh",44780,99851364,"Dietitian",1022);
INSERT INTO STAFF values(111,"Alexander Foster",91560,49863375,"Doctor",1022);
INSERT INTO STAFF values(112,"Dainton Foster",93890,90564891,"Doctor",1694);
INSERT INTO STAFF values(113,"Melissa Richards",99860,97463375,"Doctor",1694);

INSERT INTO STAFF values(114,"Michelle Andrews",100890,73564891,"Doctor",1228);

INSERT INTO DOCTOR values(101,"Abhijeet
Chandan","B.SC,M.D",92760,"Anesthetics",79763375,1254);
INSERT INTO DOCTOR values(102,"Shanti
Vasundhara","B.SC,M.SC",96830,"Anesthetics",23564891,1344);
INSERT INTO DOCTOR values(111,"Alexander
Foster","B.SC,MBBS",91560,"Neurology",49863375,1022);
INSERT INTO DOCTOR values(112,"Dainton Foster","B.SC,M.D",93890,"ENT",90564891,1694);
INSERT INTO DOCTOR values(113,"Melissa
```

Richards","B.SC,M.SC",99860,"Gynecology",97463375,1694);
INSERT INTO DOCTOR values(114,"Michelle
Andrews","B.SC,MBBS",100890,"Urology",73564891,1228);

INSERT INTO PATIENTS values(026,207,"Aston Riley",73564999,37,"Infection",112,1694);
INSERT INTO PATIENTS values(039,306,"Frederick Fowler",73765891,52,"BP",111,1022);
INSERT INTO PATIENTS values(069,NULL,"Jared Rogers",73560987,23,"Infection",114,1228);
INSERT INTO PATIENTS values(096,109,"Aldus Harrison",35214891,31,"Infection",112,1694);

INSERT INTO TESTS values("Blood Test",039,500,"2023-01-20");
INSERT INTO TESTS values("X-ray",026,900,"2023-02-22");
INSERT INTO TESTS values("Ultrasound",069,2000,"2023-02-05");

INSERT INTO MEDICINE values("Amoxi","2026-01-22","2/day",800,026);
INSERT INTO MEDICINE values("cipro","2028-08-12","3/week",785,026);
INSERT INTO MEDICINE values("azithromy","2027-09-11","2/day",395,069);
INSERT INTO MEDICINE values("clinda","2029-05-03","1/day",140,096);

Branch

	BRANCH_ID	BRANCH_NAME	ADDRESS	CONTACT_NO	TOTAL_STAFF	AVAILABLE_BEDS	OCCUPIED_BEDS
▶	1022	LifeSpring Hospitals	144 145, Main Market, Gurgaon, Gurgaon	1091540067	87	235	210
	1228	Care Hospitals	2/34, Double Storey,Jangpura Extn	1062682735	37	87	43
	1254	Aster DM Healthcare	147-g,M Paramanand Marg, Girgaon	1048864340	17	66	23
	1344	Global Hospitals Group	125 New Apollo Estate, Mogra Lane, Andheri (east)	1031258867	67	435	290
	1694	Command Hospital	288 Abdul Rehman Street	1050136959	101	32	17
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Staff

	staff_id	staff_name	salary	contact_no	occupation	branch_id
▶	101	Abhijeet Chandan	92760	79763375	Doctor	1254
	102	Shanti Vasundhara	96830	23564891	Doctor	1344
	103	Sumati Jayanta	69040	45784806	Patient services	1254
	104	Kapil Indra	87000	30834793	IT	1254
	105	Parth Prasanna	69220	80264363	Patient services	1694
	106	Jyotsana Ratna	61180	26082456	Porters	1022
	107	Bhaskar Kalpana	32980	64209751	Clinical assistants	1694
	108	Navneet Sarika	38190	59769011	Nurse	1228
	109	Mukul Girish	24670	29260000	Pharmacist	1228
	110	Sumeet Rakesh	44780	99851364	Dietitian	1022
	111	AlexanderFoster	91560	49863375	Doctor	1022
	112	Dainton Foster	93890	90564891	Doctor	1694
	113	Melissa Richards	99860	97463375	Doctor	1694
	114	Michelle Andrews	100890	73564891	Doctor	1228
*	NULL	NULL	NULL	NULL	NULL	NULL

Doctor

staff_id	doc_name	qualication	salary	department	contact_no	branch_id
101	Abhijeet Chandan	B.SC,M.D	92760	Anesthetics	79763375	1254
102	Shanti Vasundhara	B.SC,M.SC	96830	Anesthetics	23564891	1344
111	Alexander Foster	B.SC,MBBS	91560	Neurology	49863375	1022
112	Dainton Foster	B.SC,M.D	93890	ENT	90564891	1694
113	Melissa Richards	B.SC,M.SC	99860	Gynecology	97463375	1694
114	Michelle Andrews	B.SC,MBBS	100890	Urology	73564891	1228
NULL	NULL	NULL	NULL	NULL	NULL	NULL

Patients

PATIENT_ID	ROOM_NO	PATIENT_NAME	PATIENT_CONTACT_NO	AGE	DISEASE	DOC_ID	BRANCH_ID
26	207	Aston Riley	73564999	37	Infection	112	1694
39	306	Frederick Fowler	73765891	52	BP	111	1022
69	NULL	Jared Rogers	73560987	23	Infection	114	1228
96	109	Aldus Harrison	35214891	31	Infection	112	1694
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Tests

type_of_test	reffered_to	price	report_date
Blood Test	39	500	2023-01-20
Ultrasound	69	2000	2023-02-05
X-ray	26	900	2023-02-22
NULL	NULL	NULL	NULL

Medicine

MEDNAME	USE_BY_DATE	DOSAGE	PRICE	REFFERED_TO
Amoxi	2026-01-22	2/day	800	26
azithromy	2027-09-11	2/day	395	69
cipro	2028-08-12	3/week	785	26
clinda	2029-05-03	1/day	140	96
NULL	NULL	NULL	NULL	NULL

QUERIES ON DATABASE

1. Details of patients treated by Dainton Foster.

```
SELECT P.* FROM PATIENTS AS P,DOCTOR AS D
WHERE P.DOC_ID=D.STAFF_ID AND D.DOC_NAME="Dainton Foster";
```

	PATIENT_ID	ROOM_NO	PATIENT_NAME	PATIENT_CONTACT_NO	AGE	DISEASE	DOC_ID	BRANCH_ID
▶	26	207	Aston Riley	73564999	37	Infection	112	1694
	96	109	Aldus Harrison	35214891	31	Infection	112	1694

2. Count of staff in each occupation.

```
SELECT COUNT(*) AS COUNT, OCCUPATION  FROM STAFF GROUP BY OCCUPATION;
```

	COUNT	OCCUPATION
▶	6	Doctor
	2	Patient services
	1	IT
	1	Porters
	1	Clinical assistants
	1	Nurse
	1	Pharmacist
	1	Dietitian

3. Details of staff working in Global Hospital Group.

```
SELECT S.* FROM STAFF AS S,BRANCH AS B
WHERE S.BRANCH_ID=B.BRANCH_ID AND B.BRANCH_NAME="Global Hospitals Group";
```

	staff_id	staff_name	salary	contact_no	occupation	branch_id
▶	102	Shanti Vasundhara	96830	23564891	Doctor	1344

4. Details of patients who bought Clinda.

```
SELECT P.* FROM PATIENTS AS P,MEDICINE AS M
WHERE P.PATIENT_ID=M.REFFERED_TO AND M.MEDNAME="Clinda";
```

	PATIENT_ID	ROOM_NO	PATIENT_NAME	PATIENT_CONTACT_NO	AGE	DISEASE	DOC_ID	BRANCH_ID
▶	96	109	Aldus Harrison	35214891	31	Infection	112	1694

5. Hospital wise count of patients.

```sql
SELECT COUNT(*) AS NUMBER_OF_PATIENTS,BRANCH_NAME FROM PATIENTS AS P , BRANCH AS B
WHERE P.BRANCH_ID=B.BRANCH_ID GROUP BY BRANCH_NAME;
```

NUMBER_OF_PATIENTS	BRANCH_NAME
1	LifeSpring Hospitals
1	Care Hospitals
2	Command Hospital

6. Details of patients above the age of 30.

```sql
SELECT * FROM PATIENTS WHERE AGE>30;
```

PATIENT_ID	ROOM_NO	PATIENT_NAME	PATIENT_CONTACT_NO	AGE	DISEASE	DOC_ID	BRANCH_ID
26	207	Aston Riley	73564999	37	Infection	112	1694
39	306	Frederick Fowler	73765891	52	BP	111	1022
96	109	Aldus Harrison	35214891	31	Infection	112	1694
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

7. Occupation wise average salary of staff.

```sql
SELECT AVG(SALARY),OCCUPATION FROM STAFF GROUP BY OCCUPATION;
```

AVG(SALARY)	OCCUPATION
95965.0000	Doctor
69130.0000	Patient services
87000.0000	IT
61180.0000	Porters
32980.0000	Clinical assistants
38190.0000	Nurse
24670.0000	Pharmacist
44780.0000	Dietitian

8. Patient whose reports were generated on 2023-02-05.

```sql
SELECT P.* FROM PATIENTS AS P,TESTS AS T
WHERE P.PATIENT_ID=T.REFFERED_TO AND T.REPORT_DATE="2023-02-05";
```

PATIENT_ID	ROOM_NO	PATIENT_NAME	PATIENT_CONTACT_NO	AGE	DISEASE	DOC_ID	BRANCH_ID
69	NULL	Jared Rogers	73560987	23	Infection	114	1228