

# HOSPITAL MANAGEMENT SYSTEM FINAL PROJECT

Prepared to:

*Dr. Shaheera Rashwan  
Eng. Esraa*

# **PREPARED BY:**

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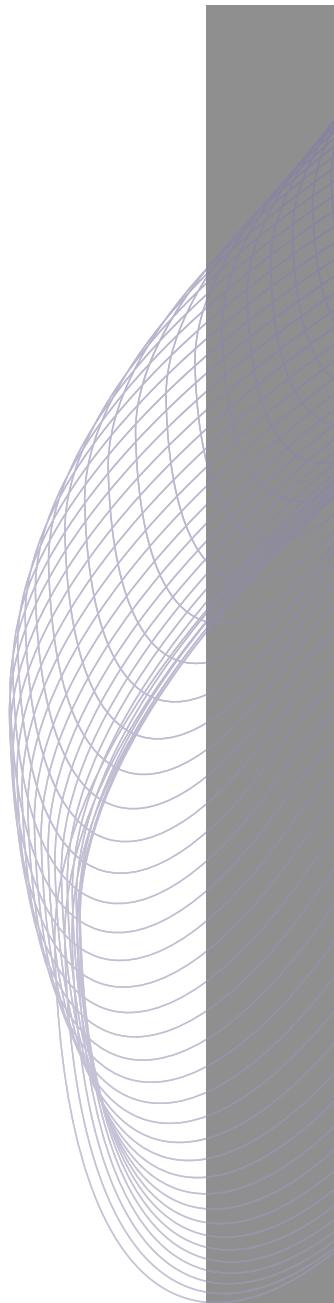
**1** سلمى عفيفي علي  
20221453713

**2** مريم علي حسن موسى  
20221462924

**3** امنية نصر عبد العاطي  
20221457157

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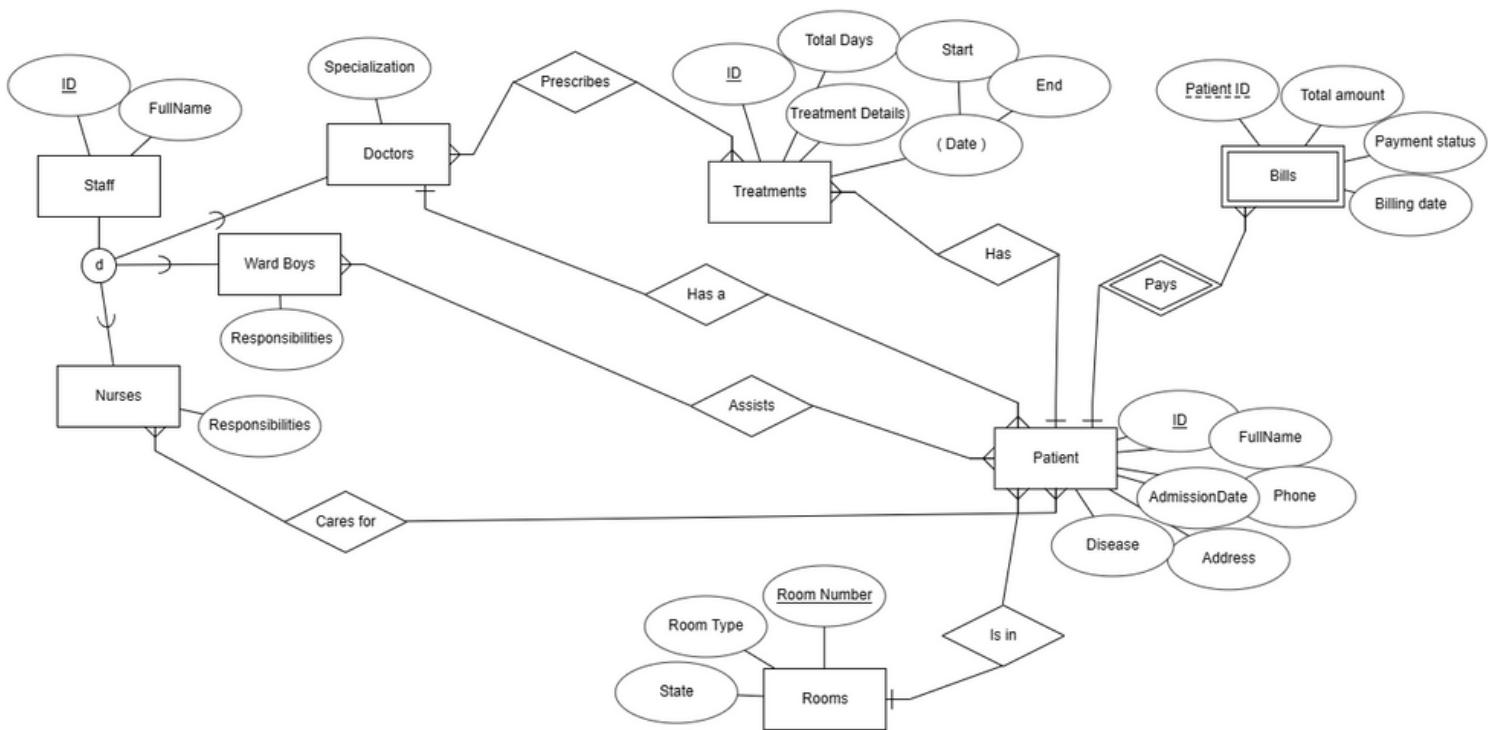


# ABOUT OUR PROJECT

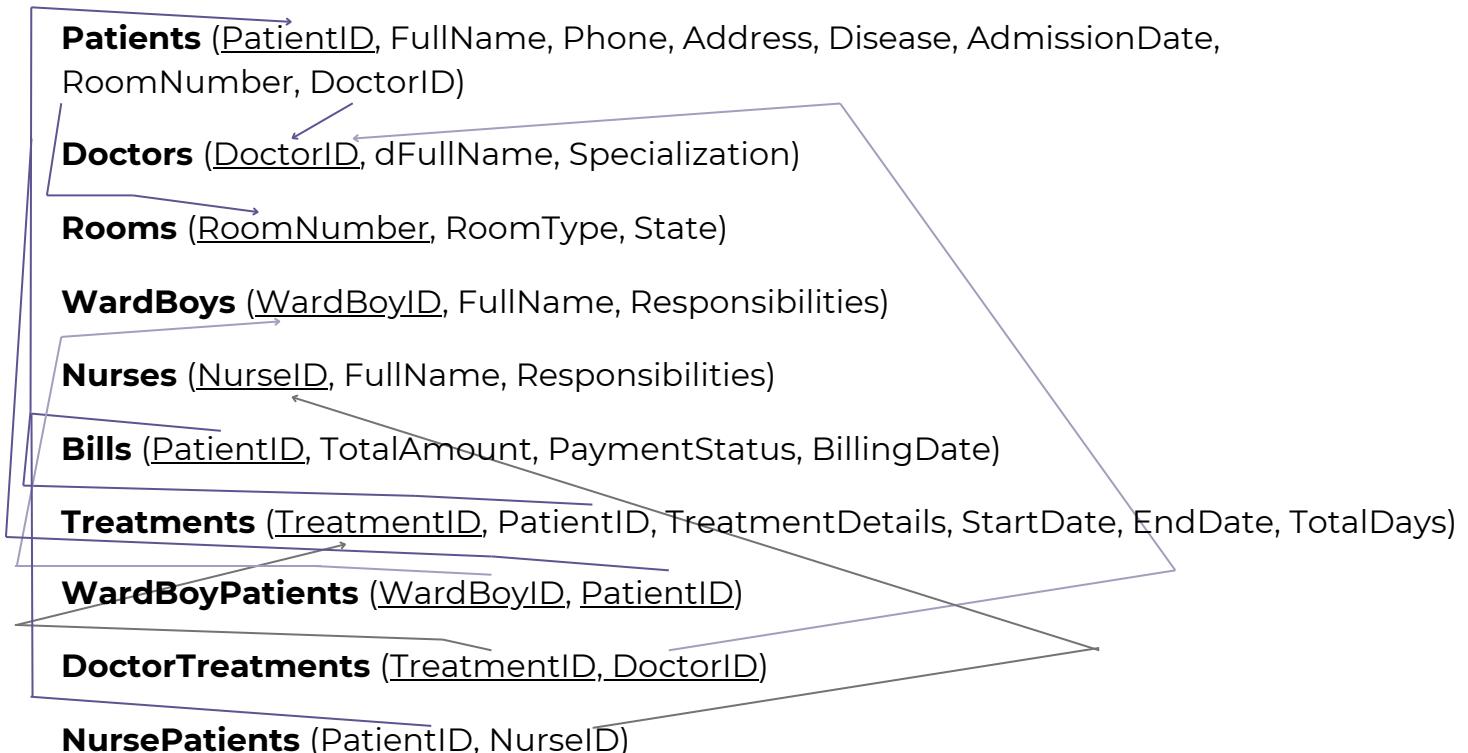
**The Hospital Management System** is like a well-thought-out plan for making hospitals work better. It's a smart way of handling all the complicated stuff that happens behind the scenes in a hospital. This system is designed to keep track of patient information, treatments, and money matters in an organized way.

- **Patients:** Assigned unique IDs for precise record-keeping, tracking essential details like name, phone, address, and disease.
- **Doctors:** Given distinct IDs with recorded specializations, fostering efficient patient-doctor connections.
- **Treatments:** Maintains a comprehensive record of treatment details, aiding in organized treatment planning and evaluation.
- **Nurses and Ward Boys:** Streamlines roles and responsibilities of frontline healthcare staff through unique IDs.
- **Rooms:** Dynamically manages room occupancy, optimizing resource allocation for Regular and ICU categories.
- **Bills:** Systematically records financial transactions, including Total Amount, Payment Status, and Billing Date, ensuring transparent financial management.

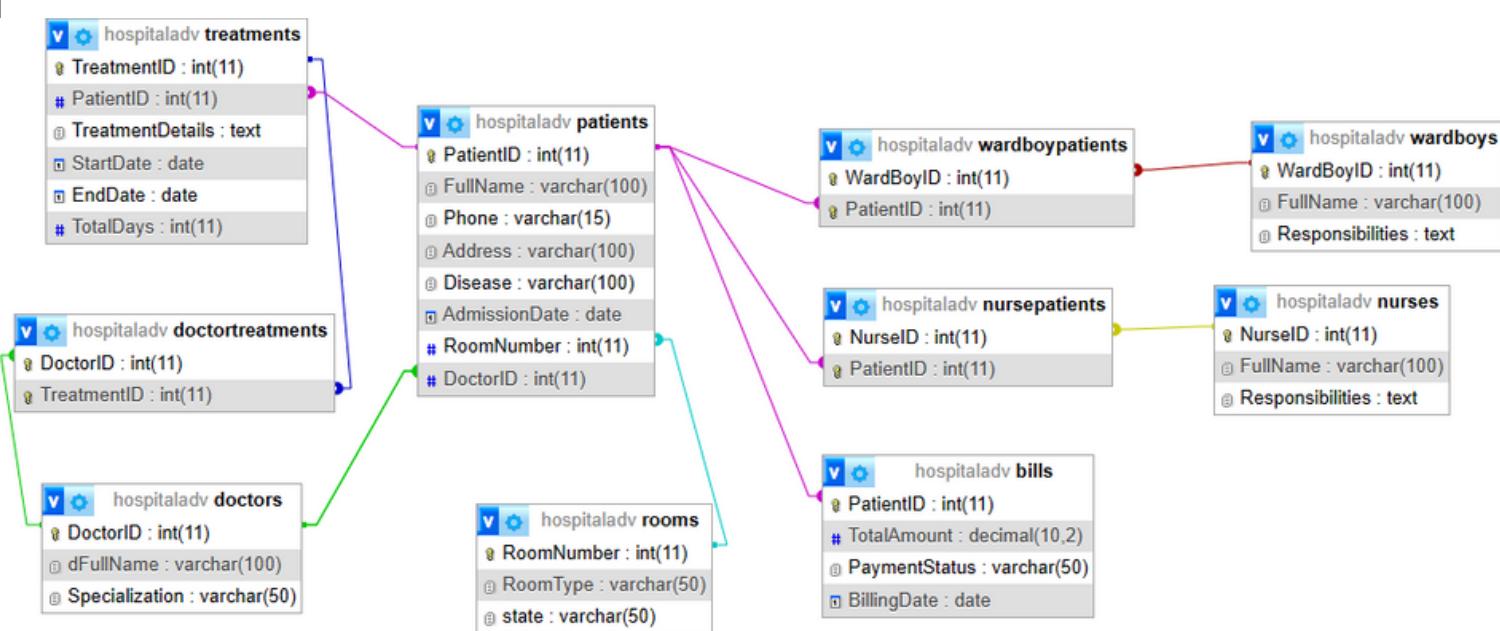
## ERD



# LOGICAL MODEL



# SCHEMA



# SQL QUERIES

## DOCTORS

### CREATION

```
CREATE TABLE `doctors` (
  `DoctorID` int(11) NOT NULL,
  `dFullName` varchar(100) DEFAULT NULL,
  `Specialization` varchar(50) DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
COLLATE=utf8mb4_general_ci;
```

### INSERTION

```
INSERT INTO `doctors` (`DoctorID`, `dFullName`, `Specialization`)
VALUES
(1, 'Dr. Ali Hassan', 'General Practitioner'),
(2, 'Dr. Mona Ahmed', 'Orthopedic Surgeon'),
(3, 'Dr. Hala Mahmoud', 'Pediatrician'),
(4, 'Dr. Ahmed Salah', 'Cardiologist'),
(5, 'Dr. Yasmine Ali', 'Dermatologist'),
(6, 'Dr. Ahmed Mohamed', 'Cardiologist'),
(7, 'Dr. Fatma Ali', 'Dermatologist'),
(8, 'Dr. Mahmoud Samir', 'Neurologist');
```

TABLE  
↗

DoctorID	dFullName	Specialization
1	Dr. Ali Hassan	General Practitioner
2	Dr. Mona Ahmed	Orthopedic Surgeon
3	Dr. Hala Mahmoud	Pediatrician
4	Dr. Ahmed Salah	Cardiologist
5	Dr. Yasmine Ali	Dermatologist
6	Dr. Ahmed Mohamed	Cardiologist
7	Dr. Fatma Ali	Dermatologist
8	Dr. Mahmoud Samir	Neurologist

## NURSES

### CREATION

```
CREATE TABLE `nurses` (
  `NurseID` int(11) NOT NULL,
  `FullName` varchar(100) DEFAULT NULL,
  `Responsibilities` text DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
COLLATE=utf8mb4_general_ci;
```

### INSERTION

```
INSERT INTO `nurses` (`NurseID`, `FullName`, `Responsibilities`)
VALUES
(1, 'Sara Ali', 'Patient care and medication administration'),
(2, 'Ahmed Hassan', 'Monitoring patient vital signs'),
(3, 'Nour Ibrahim', 'Assisting doctors in procedures'),
(4, 'Yara Mahmoud', 'Patient care and medication administration'),
(5, 'Omar Hassan', 'Monitoring patient vital signs'),
(6, 'Mariam Mostafa', 'Monitoring patient conditions'),
(7, 'Ali Hassan', 'Administering medications'),
(8, 'Noha Ahmed', 'Assisting in medical procedures'),
(9, 'Rania Mahmoud', 'Patient care and medication administration'),
(10, 'Mohamed Ali', 'Monitoring patient vital signs'),
(11, 'Sara Kamal', 'Assisting doctors in procedures');
```

TABLE  
↗

NurseID	FullName	Responsibilities
1	Sara Ali	Patient care and medication administration
2	Ahmed Hassan	Monitoring patient vital signs
3	Nour Ibrahim	Assisting doctors in procedures
4	Yara Mahmoud	Patient care and medication administration
5	Omar Hassan	Monitoring patient vital signs
6	Mariam Mostafa	Monitoring patient conditions
7	Ali Hassan	Administering medications
8	Noha Ahmed	Assisting in medical procedures
9	Rania Mahmoud	Patient care and medication administration
10	Mohamed Ali	Monitoring patient vital signs
11	Sara Kamal	Assisting doctors in procedures

## WARDBOYS

### CREATION

```
CREATE TABLE `wardboys` (
  `WardBoyID` int(11) NOT NULL,
  `FullName` varchar(100) DEFAULT NULL,
  `Responsibilities` text DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
COLLATE=utf8mb4_general_ci;
```

### INSERTION

```
INSERT INTO `wardboys` (`WardBoyID`, `FullName`, `Responsibilities`)
VALUES
(1, 'Khaled Mahmoud', 'Assisting in patient movements and room maintenance'),
(2, 'Mona Mostafa', 'Cleaning and organizing patient rooms'),
(3, 'Hassan Salem', 'Assisting nurses and doctors in non-medical tasks'),
(4, 'Ahmed Hassan', 'Assisting in patient movements and room maintenance'),
(5, 'Nora Mahmoud', 'Cleaning and organizing patient rooms'),
(6, 'Amr Salem', 'Assisting nurses and doctors in non-medical tasks');
```

### TABLE



WardBoyID	FullName	Responsibilities
1	Khaled Mahmoud	Assisting in patient movements and room maintenance
2	Mona Mostafa	Cleaning and organizing patient rooms
3	Hassan Salem	Assisting nurses and doctors in non-medical tasks
4	Ahmed Hassan	Assisting in patient movements and room maintenance
5	Nora Mahmoud	Cleaning and organizing patient rooms
6	Amr Salem	Assisting nurses and doctors in non-medical tasks

## ROOMS

### CREATION

```
CREATE TABLE `rooms` (
  `RoomNumber` int(11) NOT NULL,
  `RoomType` varchar(50) DEFAULT NULL,
  `state` varchar(50) DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
COLLATE=utf8mb4_general_ci;
```

### INSERTION

```
INSERT INTO `rooms` (`RoomNumber`, `RoomType`, `state`) VALUES
(1, 'Regular', 'Occupied'),
(2, 'ICU', 'Occupied'),
(3, 'Regular', 'Occupied'),
(4, 'ICU', 'Occupied'),
(5, 'Regular', 'Occupied'),
(6, 'Regular', 'Vacant'),
(7, 'ICU', 'Vacant'),
(8, 'Regular', 'Occupied'),
(9, 'ICU', 'Occupied'),
(10, 'Regular', 'Occupied');
```

TABLE  
↗

RoomNumber	RoomType	state
1	Regular	Occupied
2	ICU	Occupied
3	Regular	Occupied
4	ICU	Occupied
5	Regular	Occupied
6	Regular	Vacant
7	ICU	Vacant
8	Regular	Occupied
9	ICU	Occupied
10	Regular	Occupied

## PATIENTS

### CREATION

```
CREATE TABLE `patients` (
    `PatientID` int(11) NOT NULL,
    `FullName` varchar(100) DEFAULT NULL,
    `Phone` varchar(15) DEFAULT NULL,
    `Address` varchar(100) DEFAULT NULL,
    `Disease` varchar(100) DEFAULT NULL,
    `AdmissionDate` date DEFAULT NULL,
    `RoomNumber` int(11) DEFAULT NULL,
    `DoctorID` int(11) DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
```

### INSERTION

```
INSERT INTO `patients` (`PatientID`, `FullName`, `Phone`, `Address`, `Disease`, `AdmissionDate`, `RoomNumber`, `DoctorID`) VALUES
(1, 'Amr Ibrahim', '+201234567890', '10 Nile Street, Giza', 'Fever', '2023-01-01', 1, 1),
(2, 'Nada Ahmed', '+201198765432', '15 Sphinx Avenue, Cairo', 'Broken Arm', '2023-01-03', 2, 2),
(3, 'Karim Salah', '+201276543210', '20 Pyramids Road, Luxor', 'Flu', '2023-01-05', 3, 3),
(4, 'Laila Mostafa', '+201345678901', '30 Aswan Street, Aswan', 'Migraine', '2023-01-07', 4, 1),
(5, 'Youssef Mahmoud', '+201234567890', '25 Karnak Avenue, Luxor', 'Sprained Ankle', '2023-01-09', 5, 2),
(6, 'younma shaw', '01000655355', 'elsalam street', 'Fever', '2023-12-05', 2, 1),
(7, 'gamil elsaid', '01000675457', 'rashid edko', 'Flu', '2023-12-13', 3, 3),
(8, 'Maha Saleh', '+201212345678', '5 Nile Street, Giza', 'Allergies', '2023-12-20', 3, 4),
(9, 'Hassan Ali', '+201234567890', '8 Sphinx Avenue, Cairo', 'Asthma', '2023-12-25', 4, 5),
(10, 'Salma Ahmed', '+201298765432', '15 Pyramids Road, Luxor', 'Skin infection', '2023-12-28', 5, 3),
(11, 'Noura Hany', '+201234567890', '22 Nile Street, Giza', 'Pneumonia', '2024-01-05', 10, 8),
(12, 'Ahmed Samir', '+201298765432', '11 Sphinx Avenue, Cairo', 'Appendicitis', '2024-01-08', 8, 3),
(13, 'Lina Tamer', '+201276543210', '14 Pyramids Road, Luxor', 'Fractured leg', '2024-01-10', 9, 5);
```

### TABLE



PatientID	FullName	Phone	Address	Disease	AdmissionDate	RoomNumber	DoctorID
1	Amr Ibrahim	+201234567890	10 Nile Street, Giza	Fever	2023-01-01	1	1
2	Nada Ahmed	+201198765432	15 Sphinx Avenue, Cairo	Broken Arm	2023-01-03	2	2
3	Karim Salah	+201276543210	20 Pyramids Road, Luxor	Flu	2023-01-05	3	3
4	Laila Mostafa	+201345678901	30 Aswan Street, Aswan	Migraine	2023-01-07	4	1
5	Youssef Mahmoud	+201234567890	25 Karnak Avenue, Luxor	Sprained Ankle	2023-01-09	5	2
6	younma shaw	01000655355	elsalam street	Fever	2023-12-05	2	1
7	gamil elsaid	01000675457	rashid edko	Flu	2023-12-13	3	3
8	Maha Saleh	+201212345678	5 Nile Street, Giza	Allergies	2023-12-20	3	4
9	Hassan Ali	+201234567890	8 Sphinx Avenue, Cairo	Asthma	2023-12-25	4	5
10	Salma Ahmed	+201298765432	15 Pyramids Road, Luxor	Skin infection	2023-12-28	5	3
11	Noura Hany	+201234567890	22 Nile Street, Giza	Pneumonia	2024-01-05	10	8
12	Ahmed Samir	+201298765432	11 Sphinx Avenue, Cairo	Appendicitis	2024-01-08	8	3
13	Lina Tamer	+201276543210	14 Pyramids Road, Luxor	Fractured leg	2024-01-10	9	5

# SQL QUERIES

Cont.

## BILLS

### CREATION

```
CREATE TABLE `bills` (
  `PatientID` int(11) NOT NULL,
  `TotalAmount` decimal(10,2) DEFAULT NULL,
  `PaymentStatus` varchar(50) DEFAULT NULL,
  `BillingDate` date DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
COLLATE=utf8mb4_general_ci;
```

### INSERTION

```
INSERT INTO `bills`(`PatientID`, `TotalAmount`, `PaymentStatus`,
`BillingDate`) VALUES
(1, 500.00, 'Paid', '2023-01-08'),
(2, 1200.00, 'Unpaid', '2023-01-21'),
(3, 300.00, 'Paid', '2023-01-11'),
(4, 400.00, 'Unpaid', '2023-01-15'),
(5, 150.00, 'Paid', '2023-01-12'),
(6, 400.00, 'paid', '2023-12-05'),
(7, 210.00, 'paid', '2023-12-13'),
(8, 600.00, 'Unpaid', '2023-12-15'),
(9, 800.00, 'Paid', '2023-12-16'),
(10, 350.00, 'Unpaid', '2023-12-17'),
(11, 500.00, 'Paid', '2024-01-07'),
(12, 620.00, 'Paid', '2023-01-20'),
(13, 980.00, 'Unpaid', '2024-01-10');
```

TABLE  
↗

PatientID	TotalAmount	PaymentStatus	BillingDate
1	500.00	Paid	2023-01-08
2	1200.00	Unpaid	2023-01-21
3	300.00	Paid	2023-01-11
4	400.00	Unpaid	2023-01-15
5	150.00	Paid	2023-01-12
6	400.00	paid	2023-12-05
7	210.00	paid	2023-12-13
8	600.00	Unpaid	2023-12-15
9	800.00	Paid	2023-12-16
10	350.00	Unpaid	2023-12-17
11	500.00	Paid	2024-01-07
12	620.00	Paid	2023-01-20
13	980.00	Unpaid	2024-01-10

## TREATMENTS

### CREATION

```
CREATE TABLE `treatments` (
  `TreatmentID` int(11) NOT NULL,
  `PatientID` int(11) DEFAULT NULL,
  `TreatmentDetails` text DEFAULT NULL,
  `StartDate` date DEFAULT NULL,
  `EndDate` date DEFAULT NULL,
  `TotalDays` int(11) DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
COLLATE=utf8mb4_general_ci;
```

### INSERTION

```
INSERT INTO `treatments`(`TreatmentID`, `PatientID`, `TreatmentDetails`,
  `StartDate`, `EndDate`, `TotalDays`) VALUES
(1, 1, 'Prescribed rest and medication', '2023-01-01', '2023-01-07', 7),
(2, 2, 'Applied cast and pain relief', '2023-01-03', '2023-01-20', 18),
(3, 3, 'Prescribed medication and fluids', '2023-01-05', '2023-01-10', 6),
(4, 4, 'Prescribed painkillers and rest', '2023-01-07', '2023-01-14', 7),
(5, 5, 'Applied ice pack and bandage', '2023-01-09', '2023-01-11', 3),
(6, 4, 'Applied cast and pain relief', '2023-12-26', '2023-12-30', 4),
(7, 6, 'Applied cast and pain relief', '2023-12-18', '2023-12-30', 12),
(8, 2, 'Prescribed painkillers and rest', '2023-11-28', '2023-12-18', 20),
(9, 8, 'Prescribed allergy medication and avoidance', '2023-12-20', '2023-12-30', 10),
(10, 9, 'Prescribed inhalers and breathing exercises', '2023-12-25', '2024-01-10', 17),
(11, 10, 'Applied antibiotic cream and medication', '2023-12-28', '2024-01-02', 6);
```

TABLE



TreatmentID	PatientID	TreatmentDetails	StartDate	EndDate	TotalDays
1	1	Prescribed rest and medication	2023-01-01	2023-01-07	7
2	2	Applied cast and pain relief	2023-01-03	2023-01-20	18
3	3	Prescribed medication and fluids	2023-01-05	2023-01-10	6
4	4	Prescribed painkillers and rest	2023-01-07	2023-01-14	7
5	5	Applied ice pack and bandage	2023-01-09	2023-01-11	3
6	4	Applied cast and pain relief	2023-12-26	2023-12-30	4
7	6	Applied cast and pain relief	2023-12-18	2023-12-30	12
8	2	Prescribed painkillers and rest	2023-11-28	2023-12-18	20
9	8	Prescribed allergy medication and avoidance	2023-12-20	2023-12-30	10
10	9	Prescribed inhalers and breathing exercises	2023-12-25	2024-01-10	17
11	10	Applied antibiotic cream and medication	2023-12-28	2024-01-02	6

## DOCTOR TREATMENTS

### CREATION

```
CREATE TABLE `doctortreatments` (
  `DoctorID` int(11) NOT NULL,
  `TreatmentID` int(11) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
COLLATE=utf8mb4_general_ci;
```

### INSERTION

```
INSERT INTO `doctortreatments`(`DoctorID`, `TreatmentID`) VALUES
(1, 1),
(1, 7),
(2, 2),
(3, 3),
(4, 7),
(5, 8),
(6, 9),
(7, 10),
(8, 11);
```

TABLE  
 ↗

DoctorID	TreatmentID
1	1
1	7
2	2
3	3
4	7
5	8
6	9
7	10
8	11

## NURSEPATIENTS

### CREATION

```
CREATE TABLE `nursepatients` (
  `NurseID` int(11) NOT NULL,
  `PatientID` int(11) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
COLLATE=utf8mb4_general_ci;
```

### INSERTION

```
INSERT INTO `nursepatients` (`NurseID`, `PatientID`) VALUES
(1, 1),
(2, 2),
(2, 10),
(3, 3),
(3, 8),
(4, 6),
(5, 7),
(6, 4),
(7, 5),
(8, 9),
(9, 12),
(10, 11),
(11, 13);
```

TABLE



NurseID	PatientID
1	1
2	2
2	10
3	3
3	8
4	6
5	7
6	4
7	5
8	9
9	12
10	11
11	13

## WARDBOYPATIENTS

### CREATION

```
CREATE TABLE `wardboypatients` (
  `WardBoyID` int(11) NOT NULL,
  `PatientID` int(11) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
COLLATE=utf8mb4_general_ci;
```

### INSERTION

```
INSERT INTO `wardboypatients` (`WardBoyID`, `PatientID`) VALUES
(1, 1),
(1, 10),
(2, 2),
(2, 8),
(2, 11),
(3, 3),
(3, 4),
(3, 13),
(4, 5),
(5, 6),
(5, 12),
(6, 7),
(6, 9);
```

TABLE



WardBoyID	PatientID
1	1
1	10
2	2
2	8
2	11
3	3
3	4
3	13
4	5
5	6
5	12
6	7
6	9

# PRIMARY KEYS & INDEXING

## ALTERATION

```
ALTER TABLE `bills`  
ADD PRIMARY KEY (`PatientID`),  
ADD KEY `idx_PaymentStatus`  
(`PaymentStatus`);
```

```
ALTER TABLE `doctors`  
ADD PRIMARY KEY (`DoctorID`);
```

```
ALTER TABLE `doctortreatments`  
ADD PRIMARY KEY  
(`DoctorID`, `TreatmentID`),  
ADD KEY `TreatmentID` (`TreatmentID`);
```

```
ALTER TABLE `nursepatients`  
ADD PRIMARY KEY  
(`NurseID`, `PatientID`),  
ADD KEY `PatientID` (`PatientID`);
```

```
ALTER TABLE `nurses`  
ADD PRIMARY KEY (`NurseID`),  
ADD KEY `idx_FullName` (`FullName`);
```

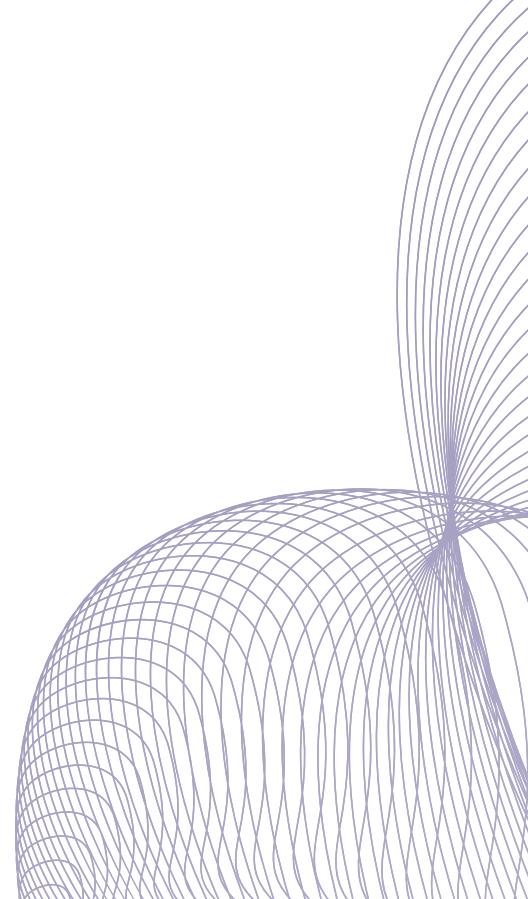
```
ALTER TABLE `patients`  
ADD PRIMARY KEY (`PatientID`),  
ADD KEY `RoomNumber`  
(`RoomNumber`),  
ADD KEY `DoctorID` (`DoctorID`),  
ADD KEY `idx_FullName` (`FullName`);
```

```
ALTER TABLE `rooms`  
ADD PRIMARY KEY (`RoomNumber`);
```

```
ALTER TABLE `treatments`  
ADD PRIMARY KEY (`TreatmentID`),  
ADD KEY `PatientID` (`PatientID`);
```

```
ALTER TABLE `wardboypatients`  
ADD PRIMARY KEY  
(`WardBoyID`, `PatientID`),  
ADD KEY `PatientID` (`PatientID`);
```

```
ALTER TABLE `wardboys`  
ADD PRIMARY KEY (`WardBoyID`);
```



# SQL QUERIES

Cont.

## ALTERATION

Cont.

## AUTO INCREMENT

```
ALTER TABLE `bills`  
MODIFY `PatientID` int(11) NOT NULL  
AUTO_INCREMENT, AUTO_INCREMENT=14;
```

```
ALTER TABLE `doctors`  
MODIFY `DoctorID` int(11) NOT NULL  
AUTO_INCREMENT, AUTO_INCREMENT=9;
```

```
ALTER TABLE `nurses`  
MODIFY `NurseID` int(11) NOT NULL  
AUTO_INCREMENT, AUTO_INCREMENT=12;
```

```
ALTER TABLE `patients`  
MODIFY `PatientID` int(11) NOT NULL  
AUTO_INCREMENT, AUTO_INCREMENT=14;
```

```
ALTER TABLE `rooms`  
MODIFY `RoomNumber` int(11) NOT NULL  
AUTO_INCREMENT, AUTO_INCREMENT=11;
```

```
ALTER TABLE `treatments`  
MODIFY `TreatmentID` int(11) NOT NULL  
AUTO_INCREMENT, AUTO_INCREMENT=12;
```

```
ALTER TABLE `wardboys`  
MODIFY `WardBoyID` int(11) NOT NULL  
AUTO_INCREMENT, AUTO_INCREMENT=7;
```

## FOREIGN KEYS

```
ALTER TABLE `nursepatients`  
ADD CONSTRAINT `nursepatients_ibfk_1`  
FOREIGN KEY (`NurseID`) REFERENCES  
`nurses`(`NurseID`),  
ADD CONSTRAINT `nursepatients_ibfk_2`  
FOREIGN KEY (`PatientID`) REFERENCES  
`patients`(`PatientID`);
```

```
ALTER TABLE `patients`  
ADD CONSTRAINT `DoctorID` FOREIGN  
KEY (`DoctorID`) REFERENCES `doctors`  
(`DoctorID`),  
ADD CONSTRAINT `patients_ibfk_1`  
FOREIGN KEY (`RoomNumber`)  
REFERENCES `rooms`(`RoomNumber`),  
ADD CONSTRAINT `patients_ibfk_2`  
FOREIGN KEY (`DoctorID`) REFERENCES  
`doctors`(`DoctorID`);
```

```
ALTER TABLE `treatments`  
ADD CONSTRAINT `treatments_ibfk_1`  
FOREIGN KEY (`PatientID`) REFERENCES  
`patients`(`PatientID`);
```

```
ALTER TABLE `wardboypatients`  
ADD CONSTRAINT  
`wardboypatients_ibfk_1` FOREIGN KEY  
(`WardBoyID`) REFERENCES `wardboys`  
(`WardBoyID`),  
ADD CONSTRAINT  
`wardboypatients_ibfk_2` FOREIGN KEY  
(`PatientID`) REFERENCES `patients`  
(`PatientID`);
```

```
ALTER TABLE `bills`  
ADD CONSTRAINT `fk_bills_patient`  
FOREIGN KEY (`PatientID`) REFERENCES  
`patients`(`PatientID`);
```

```
ALTER TABLE `doctortreatments`  
ADD CONSTRAINT  
`doctortreatments_ibfk_1` FOREIGN KEY  
(`DoctorID`) REFERENCES `doctors`  
(`DoctorID`),  
ADD CONSTRAINT  
`doctortreatments_ibfk_2` FOREIGN KEY  
(`TreatmentID`) REFERENCES  
`treatments`(`TreatmentID`);
```

# TRIGGERS IN TABLE PATIENTS

# CREATION

```
DELIMITER $$  
CREATE TRIGGER `after_patient_admission`  
AFTER INSERT ON `patients` FOR EACH ROW BEGIN  
UPDATE rooms  
    SET state = 'Occupied'  
    WHERE RoomNumber = NEW.RoomNumber;  
END  
$$  
DELIMITER ;
```

```
DELIMITER $$  
CREATE TRIGGER `after_patient_discharge`  
AFTER DELETE ON `patients` FOR EACH ROW BEGIN  
UPDATE rooms  
    SET state = 'Vacant'  
    WHERE RoomNumber = OLD.RoomNumber;  
END  
$$  
DELIMITER :
```

## EXAMPLE

-- Insert a new patient into the patients table

```
INSERT INTO patients (FullName, RoomNumber) VALUES ('John Doe', 6);
```

-- This trigger should update the corresponding room's state to

## 'Occupied' for RoomNumber 6

## BEFORE



Edit  Copy  Delete 6 Regular Vacant

## AFTER



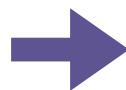
<input type="checkbox"/>	Edit	Copy	Delete	14 John Doe	NULL	NULL	NULL	NULL	6	NULL
<input type="checkbox"/>	Edit	Copy	Delete	6 Regular	Occupied					

# OTHER QUERIES & QUERY OPTIMIZATION

## SELECTION

**Retrieve all patients along with their assigned doctors:**

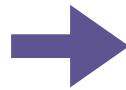
```
SELECT patients.FullName AS PatientName, doctors.dFullName AS DoctorName
FROM patients
JOIN doctors ON patients.DoctorID = doctors.DoctorID;
```



PatientName	DoctorName
Amr Ibrahim	Dr. Ali Hassan
Nada Ahmed	Dr. Mona Ahmed
Karim Salah	Dr. Hala Mahmoud
Laila Mostafa	Dr. Ali Hassan
Youssef Mahmoud	Dr. Mona Ahmed
younna shaw	Dr. Ali Hassan
gamil elsaid	Dr. Hala Mahmoud
Maha Saleh	Dr. Ahmed Salah
Hassan Ali	Dr. Yasmine Ali
Salma Ahmed	Dr. Hala Mahmoud
Noura Hany	Dr. Mahmoud Samir
Ahmed Samir	Dr. Hala Mahmoud
Lina Tamer	Dr. Yasmine Ali

**List the total amount of unpaid bills:**

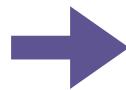
```
SELECT SUM(TotalAmount) AS TotalUnpaidAmount
FROM bills
WHERE PaymentStatus = 'Unpaid';
```



<b>TotalUnpaidAmount</b>
3530.00

**Find the most common disease among patients:**

```
SELECT Disease, COUNT(*) AS PatientCount
FROM patients
GROUP BY Disease
ORDER BY PatientCount DESC
LIMIT 1;
```



Disease	PatientCount
Fever	2

**Retrieve nurses and their responsibilities:**

```
SELECT FullName AS NurseName,
Responsibilities
FROM nurses;
```



← ↑ →	NurseName	Responsibilities
<input type="checkbox"/>	Sara Ali	Patient care and medication administration
<input type="checkbox"/>	Ahmed Hassan	Monitoring patient vital signs
<input type="checkbox"/>	Nour Ibrahim	Assisting doctors in procedures
<input type="checkbox"/>	Yara Mahmoud	Patient care and medication administration
<input type="checkbox"/>	Omar Hassan	Monitoring patient vital signs
<input type="checkbox"/>	Mariam Mostafa	Monitoring patient conditions
<input type="checkbox"/>	Ali Hassan	Administering medications
<input type="checkbox"/>	Noha Ahmed	Assisting in medical procedures
<input type="checkbox"/>	Rania Mahmoud	Patient care and medication administration
<input type="checkbox"/>	Mohamed Ali	Monitoring patient vital signs
<input type="checkbox"/>	Sara Kamal	Assisting doctors in procedures

# OTHER QUERIES & QUERY OPTIMIZATION

## SELECTION

Cont.

**Get the total number of patients in each room type:**

```
SELECT RoomType, COUNT(*) AS PatientCount
FROM patients
JOIN rooms ON
patients.RoomNumber =
rooms.RoomNumber
GROUP BY RoomType;
```



RoomType	PatientCount
ICU	5
Regular	8

**Find patients with ongoing treatments:**

```
SELECT patients.FullName AS PatientName, treatments.TreatmentDetails,
treatments.StartDate, treatments.EndDate
FROM patients
JOIN treatments ON patients.PatientID = treatments.PatientID
WHERE treatments.EndDate >= CURDATE();
```

PatientName	TreatmentDetails	StartDate	EndDate
Laila Mostafa	Applied cast and pain relief	2023-12-26	2023-12-30
younna shaw	Applied cast and pain relief	2023-12-18	2023-12-30
Nada Ahmed	Prescribed painkillers and rest	2023-11-28	2023-12-18
Maha Saleh	Prescribed allergy medication and avoidance	2023-12-20	2023-12-30
Hassan Ali	Prescribed inhalers and breathing exercises	2023-12-25	2024-01-10
Salma Ahmed	Applied antibiotic cream and medication	2023-12-28	2024-01-02

**Calculate the average number of days for treatments:**

```
SELECT AVG(TotalDays) AS AverageTreatmentDays
FROM treatments;
```



AverageTreatmentDays
10.0000

# OTHER QUERIES & QUERY OPTIMIZATION

## SELECTION

Cont.

**Identify doctors with the number of treatments they have assigned:**

```
SELECT doctors.dFullName AS DoctorName,
COUNT(doctortreatments.TreatmentID) AS AssignedTreatments
FROM doctors
LEFT JOIN doctortreatments ON doctors.DoctorID =
doctortreatments.DoctorID
GROUP BY doctors.DoctorID, doctors.dFullName;
```



DoctorName	AssignedTreatments
Dr. Ali Hassan	2
Dr. Mona Ahmed	1
Dr. Hala Mahmoud	1
Dr. Ahmed Salah	1
Dr. Yasmine Ali	1
Dr. Ahmed Mohamed	1
Dr. Fatma Ali	1
Dr. Mahmoud Samir	1

**Query optimization involves making SQL queries faster and more efficient. Here's how the provided queries achieve optimization:**

1. Selecting Only Needed Data:
  - Queries fetch only necessary columns to reduce data transfer and processing.
2. Using Aggregation Functions:
  - Aggregating functions like SUM() and COUNT() summarize data without fetching individual records.
3. Efficient Grouping and Sorting:
  - Grouping data with GROUP BY and sorting with ORDER BY optimizes retrieval, avoiding unnecessary processing.
4. Avoiding Unnecessary Joins:
  - Queries directly access tables when only one table's data is needed, reducing computational load.
5. Smart Filtering:
  - Conditions like date filtering (CURDATE()) fetch relevant data, filtering out unnecessary records.
6. Utilizing Aggregation for Averages:
  - Calculating averages with AVG() efficiently computes average values.
7. Optimized Join Techniques:
  - Using left join (LEFT JOIN) ensures including all relevant data even when no matches exist.

# PHP & GUI

we create GUI using html and connect it with php code to access data base

## DASHBOARD

create nav bar contain links to search patient ,add patient, doctor management , room allocation, nurse staff, wardboys staff

## CODE

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Hospital System Dashboard</title>
    <link rel="stylesheet" href="styles.css">
    <style>

        </style>
</head>
<body>
    <nav>
        <ul>
            <li><a href="dashboarrd.php">Dashboard</a></li>
            <li><a href="patientma.php">Search patient</a></li>
            <li><a href="addpatient.php">Add patient</a></li>
            <li><a href="doctor.php">Doctor Management</a></li>
            <li><a href="room.php">Room Allocation</a></li>
            <li><a href="nurse.php">nurse Staff </a></li>
            <li><a href="wardboys.php">wardboy staff</a></li>
        </ul>
    </nav>
</body>
</html>
```



# SEARCH PAIENT LINK

## GUI CODE

```
</>
<ul>
<li><a href="dashboarrd.php">Dashboard</a></li>
    <li><a href="patientma.php">search patient</a></li>
    <li><a href="addpatient.php">add patient</a></li>
    <li><a href="doctor.php">Doctor Management</a></li>
    <li><a href="room.php">Room Allocation</a></li>
    <li><a href="nurse.php">nurse Staff </a></li>
    <li><a href="#">Billing Section</a></li>
    <li><a href="#">User Authentication</a></li>
    <li><a href="#">Reporting</a></li>
</ul>
<av>

<ction id="main-content">

<h2>search patient</h2>
|  <form action="searchpatient.php" method="post">
<input type="text" placeholder="FullName" class="FullName" id="all" name="FullName" required />
<input type="tel" placeholder="Phone" id="all1" name="Phone" required /><br>
|  <button type="submit">Search Patient</button>
</form>
<ction>
```

search page GUI contain two text boxes one to enter patient full name and the other to enter phone this GUI connect with php code search about patient in data base and show his data on the screen

The screenshot shows a web application interface. On the left, there is a sidebar with a dark teal background containing a navigation menu:

- Dashboard
- search patient
- add patient
- Doctor Management
- Room Allocation
- nurse Staff
- Billing Section
- User Authentication
- Reporting

On the right, the main content area has a light gray background. It displays a heading "search patient" above two input fields. The first input field contains the text "Amr Ibrahim" and the second input field contains the text "201234567890". Below these fields is a green button labeled "Search Patient".

# SEARCH PAIENT

## PHP CODE

1st :connect to my data base

```
$conn = mysqli_connect("localhost", "root", "", "hospitaladv");
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}
if ($_SERVER["REQUEST_METHOD"] == "POST") {
```

2nd: take patient full name and phone number from form

```
if ($_SERVER["REQUEST_METHOD"] == "POST") {

    $searchFullName = $_POST['FullName'];
    $searchPhone = $_POST['Phone'];
```

3rd:excute sql query

this query search about patient using patient full name and phone and display all patient data join his doctor name ,id join bills

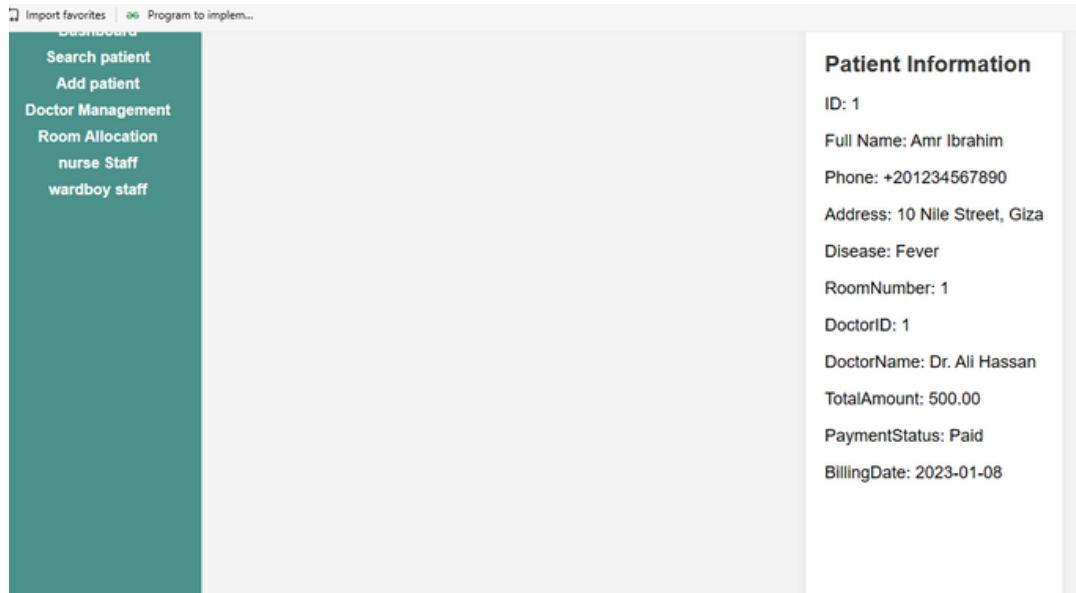
```
"SELECT patients.*, doctors.dFullName, bills.*
FROM patients
LEFT JOIN doctors ON patients.DoctorID = doctors.DoctorID
RIGHT JOIN bills ON patients.PatientID = bills.PatientID
WHERE LOWER(patients.FullName) = LOWER('$searchFullName') AND patients.Phone = '$searchPhone'
```

4th:print patient data & close connection

```
$result = $conn->query($sql);
if ($result->num_rows > 0) {
    $patientData = $result->fetch_assoc();
    echo "<div class='patient-info'>";
    echo "<h2>Patient Information</h2>";
    echo "<p>ID: " . $patientData['PatientID'] . "</p>";
    echo "<p>Full Name: " . $patientData['FullName'] . "</p>";
    echo "<p>Phone: " . $patientData['Phone'] . "</p>";
    echo "<p>Address: " . $patientData['Address'] . "</p>";
    echo "<p>Disease: " . $patientData['Disease'] . "</p>";
    echo "<p>RoomNumber: " . $patientData['RoomNumber'] . "</p>";
    echo "<p>DoctorID: " . $patientData['DoctorID'] . "</p>";
    echo "<p>DoctorName: " . $patientData['dFullName'] . "</p>";
    echo "<p>TotalAmount: " . $patientData['TotalAmount'] . "</p>";
    echo "<p>PaymentStatus: " . $patientData['PaymentStatus'] . "</p>";
    echo "<p>BillingDate: " . $patientData['BillingDate'] . "</p>";
    echo "</div>";

} else {
    echo "Patient not found.";
}
}
$conn->close();
?>
```

# SEARCH PAIENT



## SOME STYELS

```
body {  
font-family: Arial, sans-serif;  
margin: 0;  
padding: 0;  
background-color: #f4f4f4;  
display: flex;  
  
ion {  
margin: 20px;  
max-width: 600px;  
width: 100%;  
}  
  
h2 {  
color: #333;  
font-size: 24px;  
margin-bottom: 10px;  
}  
  
p {  
font-size: 18px;  
margin-bottom: 5px;  
}  
  
.patient-info {  
background-color: #fff;  
padding: 20px;  
border-radius: 8px;
```

# ADD PAIENT

## GUI CODE

```
<section id="main-content">
    <form action="addpatientman.php" method="post">
        <h2 class="fullName">Add Patient</h2>
        <div class="input">
            <input type="text" placeholder="Fullname" class="FullName" id="all" name="FullName" required />
            <br />
            <input type="tel" placeholder="Phone" id="all1" name="Phone" required />
            <br />
            <input type="text" placeholder="Address" class="Address" id="all" name="Address" required />
            <br />
            <input type="text" placeholder="Disease" class="Disease" id="all" name="Disease" required />
            <br />
            <input type="date" placeholder="AdmissionDate" class="AdmissionDate" id="all" name="AdmissionDate" required />
            <br />
            <input type="number" placeholder="RoomNumber" id="all1" name="RoomNumber" required />
            <br />
            <input type="number" placeholder="DoctorID" id="all1" name="DoctorID" required />
            <br />
            <input type="number" placeholder="TotalAmount" class="TotalAmount" id="all" name="TotalAmount" required />
            <br />
            <input type="text" placeholder="PaymentStatus" id="all1" name="PaymentStatus" required />
            <br />
            <input type="date" placeholder="BillingDate" class="BillingDate" id="all" name="BillingDate" required />
            <br />
            <button type="submit">Add Patient</button>
        </div>
    </form>
</section>
</body>
</html>
```

## SOME STYELS

```
form {
    background-color: #fff;
    padding: 20px;
    border-radius: 8px;
    box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
    width: 300px;
    text-align: center;
    margin: auto;
}

h2 {
    color: rgb(75, 146, 140);
}

input {
    width: 100%;
    padding: 8px;
    margin-bottom: 10px;
    box-sizing: border-box;
}

input[type="date"] {
    width: calc(100% - 16px);
}

button {
    background-color: rgb(75, 146, 140);
    color: white;
    padding: 15px 20px;
    border: none;
    border-radius: 4px;
}
```

# ADD PATIENT

add patient Gui contain form to add new patient this form connected by PHP code insert this patient in data base

The screenshot shows a user interface for adding a patient. On the left is a sidebar with a teal background containing a navigation menu. The main area is titled 'Add Patient' and contains several input fields for patient information. The input fields include: FullName ('taher mohamed'), Phone ('0111067897'), Address ('dimatte'), Disease ('Flu'), AdmissionDate ('12/10/2023'), RoomNumber ('1'), DoctorID ('1'), TotalAmount ('200'), and PaymentStatus ('paid'). There is also a 'Billing Date' field ('12/10/2023'). At the bottom right is a green 'Add Patient' button.

## PHP CODE

### 1st :connect to my data base

```
<?php  
$conn = mysqli_connect("localhost", "root", "", "hospitaladv");  
if ($conn->connect_error) {  
    die("Connection failed: " . $conn->connect_error);  
}
```

### 2nd: take data from the form and insert it in my database

```
if ($_SERVER["REQUEST_METHOD"] == "POST") {  
    $fullName = $_POST['FullName'];  
    $phone = $_POST['Phone'];  
    $address = $_POST['Address'];  
    $disease = $_POST['Disease'];  
    $admissionDate = $_POST['AdmissionDate'];  
    $roomNumber = $_POST['RoomNumber'];  
    $doctorID = $_POST['DoctorID'];  
    $totalAmount = $_POST['TotalAmount'];  
    $paymentStatus = $_POST['PaymentStatus'];  
    $billingDate = $_POST['BillingDate'];
```

### 3rd: sql query to insert patient data in the database to insert patient data in the database

```
= "INSERT INTO patients (FullName, Phone, Address, Disease, AdmissionDate, RoomNumber, DoctorID, TotalAmount, PaymentStatus, BillingDate)  
VALUES ('$fullName', '$phone', '$address', '$disease', '$admissionDate', $roomNumber, $doctorID, $totalAmount, '$paymentStatus', '$billingDate')";
```

# ADD PATIENT

## 4th: Execute the patient query

```
if ($conn->query($sqlPatient) === TRUE) {
    $patientID = $conn->insert_id;

    $sqlBill = "INSERT INTO bills (PatientID, TotalAmount, PaymentStatus, BillingDate)
                VALUES ($patientID, $totalAmount, '$paymentStatus', '$billingDate')";
    if ($conn->query($sqlBill) === TRUE) {
        echo "Patient and Bill added successfully.";
    } else {
        echo "Error adding Bill: " . $conn->error;
    }
} else {
    echo "Error adding Patient: " . $conn->error;
}
```

cannot add new patient without execute sql query to add bill to this patient by execute this \$sqlBill query

## 5th: close connection

```
$conn->close();
?>
```

## output

Patient and Bill added successfully.

## patient added

<input type="checkbox"/>		Edit		Copy		Delete	14 taher mohamed	0111067897	dimatte	Flu	2023-12-10	1	1
--------------------------	--	------	--	------	--	--------	------------------	------------	---------	-----	------------	---	---

# DOCTOR MANAGMENT

## GUI CODE

```
<section id="main-content">
    <h2>doctors</h2>
    <body>
        <form action="doctorman.php" method="post">
            <label for="doctorId">Enter Doctor's ID:</label>
            <input type="text" name="doctorId" required>
            <button type="submit">Search</button>
        </form>

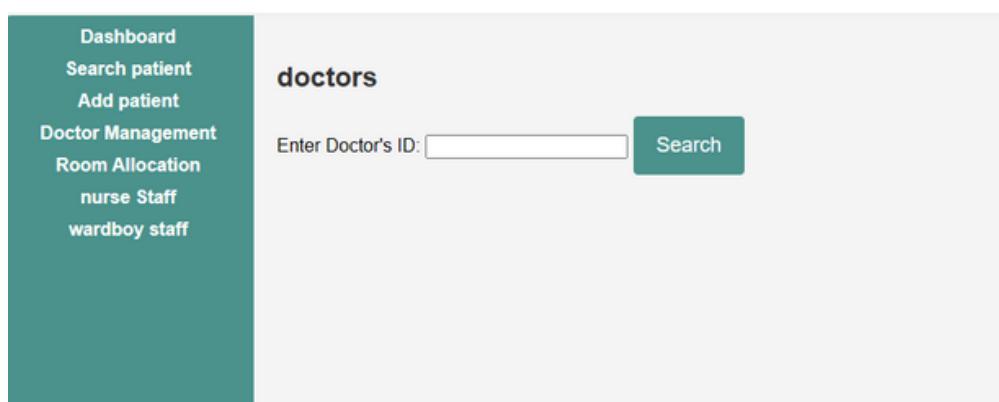
    </section>
</body>
</html>
```

## SOME STYELS

```
section {
    margin: 20px;
    flex: 1;
}

button {
    background-color: rgb(75, 146, 140);
    color: white;
    padding: 15px 20px;
    border: none;
    border-radius: 4px;
    cursor: pointer;
    margin-top: 10px;
    font-size: 18px;
}
```

GUI contain text box to take doctor id and connect with php code search about this doctor using id



# DOCTOR MANAGEMENT

## PHP CODE

1st :connect to my data base

```
<?php
$conn = mysqli_connect("localhost", "root", "", "hospitaladv");
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}
```

2nd:take doctor id from the form

```
if ($_SERVER["REQUEST_METHOD"] == "POST") {
    $doctorId = $_POST['doctorId'];
```

3rd: excute sql query

this query select all doctor data and his patient's full name and id where doctor id match to the user enter in the form

```
$sql = "SELECT doctors.*, patients.*
        FROM doctors
        JOIN patients ON doctors.DoctorID = patients.DoctorID
        WHERE doctors.DoctorID = $doctorId";
```

4th:print doctor data and his patient data on the screen

```
if ($result->num_rows > 0) {
    $doctorInfo = $result->fetch_assoc();
    echo "<h2>Doctor Information</h2>";
    echo "<p>Doctor ID: " . $doctorInfo['DoctorID'] . "</p>";
    echo "<p>Doctor Name: " . $doctorInfo['dFullName'] . "</p>";
    echo "<p>Specialization: " . $doctorInfo['Specialization'] . "</p>";

    echo "<h2>Doctor's Patients</h2>";
    do {
        echo "<div class='patient-info'>";
        echo "<p>Patient ID: " . $doctorInfo['PatientID'] . "</p>";
        echo "<p>Full Name: " . $doctorInfo['FullName'] . "</p>";
        echo "<button class='treatment-button' onclick='redirectToTreatmentPage(" . $doctorInfo['PatientID'] . ")'>Treatment</button>";
        echo "</div>";
    } while ($doctorInfo = $result->fetch_assoc());
} else {
    echo "No information found for the given Doctor ID.";
}
```

each patient has button named treatment when we click on it execute this java script code move to treatment.php

```
<script>
    function redirectToTreatmentPage(patientId) {
        window.location.href = 'treatment.php?patientId=' + patientId;
    }
</script>

</body>
</html>
```

# DOCTOR MANAGEMENT

## Doctor Information

Doctor ID: 1  
Doctor Name: Dr. Ali Hassan  
Specialization: General Practitioner

## Doctor's Patients

Patient ID: 1  
Full Name: Amr Ibrahim

[Treatment](#)

Patient ID: 4  
Full Name: Laila Mostafa

[Treatment](#)

**clicking treatment button move us to this page**

## Patient's Treatment Information

Treatment ID: 1  
Start Date: 2023-01-01  
End Date: 2023-01-07  
Total Days: 7

[ADD Treatment](#)

**this page php code contain this query take patient id and show his treatment data**

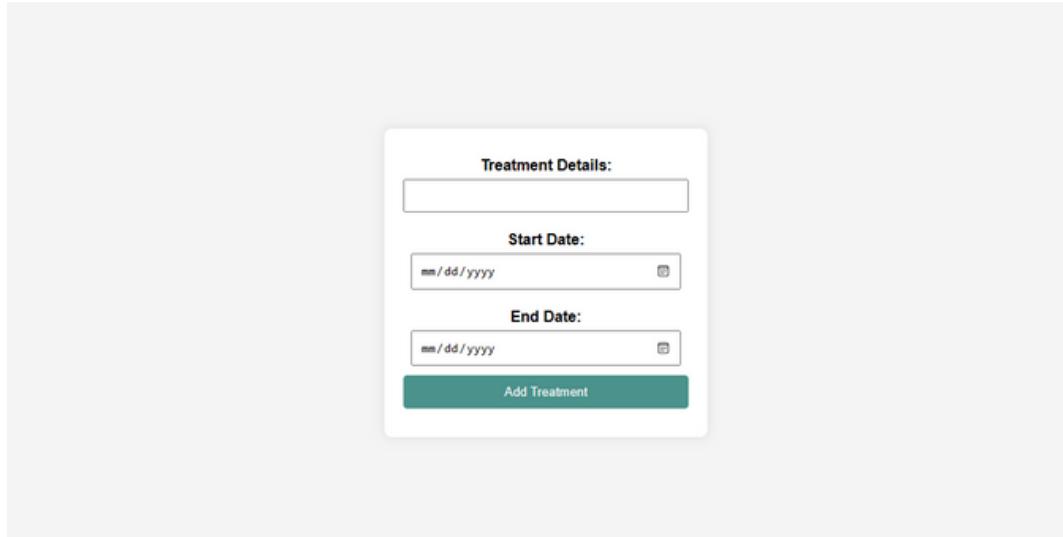
```
$sql = "SELECT treatments.*  
        FROM treatments  
       WHERE treatments.PatientID = $patientId";
```

**after that print all patient treatment data in the screen**

```
if ($result->num_rows > 0) {  
    echo "<h2>Patient's Treatment Information</h2>";  
    while ($TreatmentInfo = $result->fetch_assoc()) {  
        // treatment details  
        echo "<div class='treatment-info'>";  
        echo "<p>Treatment ID: " . $TreatmentInfo['TreatmentID'] . "</p>";  
        echo "<p>Start Date: " . $TreatmentInfo['StartDate'] . "</p>";  
        echo "<p>End Date: " . $TreatmentInfo['EndDate'] . "</p>";  
        echo "<p>Total Days: " . $TreatmentInfo['totalDays'] . "</p>";  
        echo "<button class='treatment-button' onclick='redirectToTreatmentPage(" . $TreatmentInfo['PatientID'] . ")'>ADD Treatment</button>";  
        echo "</div>";  
    }  
} else {  
    echo "No treatment information found for the given Patient ID.";  
    echo "<button class='treatment-button' onclick='redirectToTreatmentPage($patientId)'>Add Treatment</button>";  
}
```

# DOCTOR MANAGEMENT

as you show after print patient data there is button move us to page contain gui to add new treatment to the patient and insert it in data base



after connection to data base

this code execute insertion query to add new treatment to patient in data base and DATEDIFF calculate total days automatic

```
if ($_SERVER["REQUEST_METHOD"] == "POST") {  
    $patientId = $_GET['patientId'];  
  
    $treatmentDetails = $_POST['treatmentDetails'];  
    $startDate = $_POST['startDate'];  
    $endDate = $_POST['endDate'];  
    $insertSql = "INSERT INTO treatments (PatientID, TreatmentDetails, StartDate, EndDate, TotalDays)  
VALUES ('$patientId', '$treatmentDetails', '$startDate', '$endDate', DATEDIFF('$endDate', '$startDate'))";  
  
    if ($conn->query($insertSql) === TRUE) {  
        echo "Treatment added successfully.";  
    } else {  
        echo "Error: " . $insertSql . "<br>" . $conn->error;  
    }  
}
```

result

Treatment Details:

Applied cast and pain relief

Start Date:

12/05/2023

□ Edit ⌂ Copy ⌂ Delete 12 1 Applied cast and pain relief 2023-12-05 2023-12-12 7

End Date:

12/12/2023

Add Treatment

# ROOM ALLOCATION

## GUI CODE

```
<form action="roomman.php" method="post">
    <label for="roomnumber">Room number:</label>
    <input type="text" id="roomnumber" name="roomnumber" required>
    <button type="submit">Search Rooms</button>
</form>
</body>
</html>
```

this gui code contain form to enter room number and connect php code to show all data about this room

The screenshot shows a web-based user interface. On the left, there is a teal-colored sidebar menu with white text containing the following items:

- Dashboard
- Search patient
- Add patient
- Doctor Management
- Room Allocation
- nurse Staff
- wardboy staff

To the right of the sidebar, the main content area has a light gray background. It contains a form for searching rooms. The form includes a label "Room number:" followed by a text input field containing the value "1". Below the input field is a green button labeled "Search Rooms".

# ROOM ALLOCATION

## PHP CODE

After connect to data base execute this query

```
$stmt = $conn->prepare("SELECT r.RoomNumber, r.RoomType,r.state, COUNT(p.PatientID) AS PatientCount
    FROM rooms r
    LEFT JOIN patients p ON r.RoomNumber = p.RoomNumber
    WHERE r.RoomNumber = ?
    GROUP BY r.RoomNumber");
$stmt->bind_param("s", $roomNumber);
$stmt->execute();
$result = $stmt->get_result();
```

this query join patient and room show room number and room state and count from patient table how many patient in this room then print data in screen

```
if ($result->num_rows > 0) {

    while ($row = $result->fetch_assoc()) {
        echo "<div class='room-box'>";
        echo "<h2>Room Information</h2>";
        echo "<p><strong>Room Number:</strong> " . $row['RoomNumber'] . "</p>";
        echo "<p><strong>Room Type:</strong> " . $row['RoomType'] . "</p>";
        echo "<p><strong>Room state:</strong> " . $row['state'] . "</p>";
        echo "<p><strong>Patient Count:</strong> " . $row['PatientCount'] . "</p>";
        echo "</div>";
    }
} else {
    echo "No records found for the given room number.";
}

$stmt->close();
} else {
    echo "Room number not provided in the form data.";
}

$conn->close();
?>
```

result

## Room Information

**Room Number:** 1

**Room Type:** Regular

**Room state:** Occupied

**Patient Count:** 2

# NURSE STAFF

## GUI CODE

```
<body>
<form action="nurseman.php" method="post">
    <label for="nurseId">Enter nurse's ID:</label>
    <input type="text" name="NurseID" required>
    <button type="submit">Search</button>
</form>
```

this GUI code contain form take nurse id and display this nurse data



## PHP CODE

After connect to data base execute this query

```
$sql = "SELECT nurses.*, patients.PatientID, patients.FullName
        FROM nurses
        JOIN nursepatients ON nurses.NurseID = nursepatients.NurseID
        JOIN patients ON nursepatients.PatientID = patients.PatientID
        WHERE nurses.NurseID = $nurseId";
```

This query select all data from nurse table join patient data to show nurse name ,full name and responsibilities and patient name

# NURSE STAFF

then show nurse patient and his data in the screen

```
$nurseInfo = $result->fetch_assoc();
echo "<p>Nurse ID: " . $nurseInfo['NurseID'] . "</p>";
echo "<p>Nurse Name: " . $nurseInfo['FullName'] . "</p>";
echo "<p>Responsibilities: " . $nurseInfo['Responsibilities'] . "</p>";
echo "<h2>Nurse's Patients</h2>";

do {
    echo "<div class='patient-info'>";
    echo "<p>Patient ID: " . $nurseInfo['PatientID'] . "</p>";
    echo "<p>Full Name: " . $nurseInfo['FullName'] . "</p>";
    echo "</div>";
} while ($nurseInfo = $result->fetch_assoc());
} else {
    echo "No information found for the given Nurse ID.";
}
} else {
    echo "Error executing the query: " . $conn->error;
}
}
```

## result

### Nurse Information

---

Nurse ID: 1

Nurse Name: Amr Ibrahim

Responsibilities: Patient care and medication administration

### Nurse's Patients

---

Patient ID: 1

Full Name: Amr Ibrahim

# WARDBOYS STAFF

## GUI CODE

```
</nav>

<section id="main-content">
  <h2>wardboys</h2>
  <body>
    <form action="wardboysman.php" method="post">
      <label for="wardboyid">Enter WardBoy ID:</label>
      <input type="text" id="wardboyid" name="wardboyid" required>
      <button type="submit">Search WardBoy</button>
    </form>
```

this GUI code contain form to take wardboys id rom form and display data



## PHP CODE

After connect to data base execute this query

```
// Use prepared statement to prevent SQL injection
$stmt = $conn->prepare("SELECT w.WardBoyID, w.FullName AS WardBoyName, w.Responsibilities, COUNT(wp.PatientID) AS PatientCount
  FROM wardboys w
  LEFT JOIN wardboypatients wp ON w.WardBoyID = wp.WardBoyID
  WHERE w.WardBoyID = ?
  GROUP BY w.WardBoyID");
$stmt->bind_param("s", $wardBoyId);
$stmt->execute();
$result = $stmt->get_result();
```

this query display all data about wardboys join count number of patient with this wardboy i enter his id

# WARDBOYS STAFF

## show patient data on the screen

```
        while ($row = $result->fetch_assoc()) {
            echo "<p><strong>WardBoy ID:</strong> " . $row['WardBoyID'] . "</p>";
            echo "<p><strong>WardBoy Name:</strong> " . $row['WardBoyName'] . "</p>";
            echo "<p><strong>Responsibilities:</strong> " . $row['Responsibilities'] . "</p>";
            echo "<p><strong>Patient Count:</strong> " . $row['PatientCount'] . "</p>";
        }

        echo "</div>";
    } else {
        echo "<p>No records found for the given WardBoy ID.</p>";
    }

    $stmt->close();
}

// Close the database connection
$conn->close();
```

## result

### WardBoy Information

**WardBoy ID:** 3

**WardBoy Name:** Hassan Salem

**Responsibilities:** Assisting nurses and doctors in non-medical tasks

**Patient Count:** 3