

```

157 # 1.----- CRUD -----
158
159 -- Insert new patient
160 • INSERT INTO Patients (patient_id, name, dob, gender, phone_number, email, address, registration_date)
161 VALUES (13, 'Rohit Kumar', '1999-04-15', 'Male', '9898989898', 'rohit@gmail.com', 'Ahmedabad', CURDATE());
162
163 • SELECT * FROM Patients;

```

patient_id	name	dob	gender	phone_number	email	address	registration_date
3	Rahul Mehta	1997-03-21	Male	9876543212	rahul@gmail.com	Vadodara	2024-03-10
4	Priya Desai	2000-07-01	Female	9876543213	priya@gmail.com	Rajkot	2024-01-25
5	Karan Joshi	1995-08-11	Male	9876543214	karan@gmail.com	Bhavnagar	2023-12-20
6	Riya Sharma	2001-11-23	Female	9876543215	riya@gmail.com	Delhi	2024-02-05
7	Arjun Verma	1996-06-19	Male	9876543216	arjun@gmail.com	Jaipur	2023-11-15
8	Sneha Rao	1999-09-09	Female	9876543217	sneha@gmail.com	Mumbai	2024-03-01
9	Vikram Singh	1994-04-18	Male	9876543218	vikram@gmail.com	Indore	2024-01-05
10	Anjali Gupta	2002-12-02	Female	9876543219	anjali@gmail.com	Pune	2024-02-20
11	Test User	2000-01-01	Male	9999999999	test@gmail.com	Test City	2024-03-01
12	Test User	2000-01-01	Male	9999999999	test@gmail.com	Test City	2024-03-01
13	Rohit Kumar	1999-04-15	Male	9898989898	rohit@gmail.com	Ahmedabad	2026-02-25
* NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

```

165 -- Insert new doctor
166 • INSERT INTO Doctors (doctor_id, name, specialization, phone_number, email, consultation_fee, experience_years)
167 VALUES (11, 'Dr. Suresh', 'Cardiology', '9000000011', 'suresh@hospital.com', 1800, 9);
168
169 • SELECT * FROM Doctors;
170

```

doctor_id	name	specialization	phone_number	email	consultation_fee	experience_years
1	Dr. Mehul	Cardiology	9000000001	mehul@hosp.com	1200.00	12
2	Dr. Rakesh	Neurology	9000000002	rakesh@hosp.com	1500.00	10
3	Dr. Nisha	Dermatology	9000000003	nisha@hosp.com	800.00	6
4	Dr. Kunal	Orthopedic	9000000004	kunal@hosp.com	1100.00	14
5	Dr. Rina	Pediatrics	9000000005	rina@hosp.com	700.00	8
6	Dr. Sanjay	ENT	9000000006	sanjay@hosp.com	600.00	5
7	Dr. Alok	Cardiology	9000000007	alok@hosp.com	1300.00	16
8	Dr. Pooja	Gynecology	9000000008	pooja@hosp.com	900.00	7
9	Dr. Aman	General	9000000009	aman@hosp.com	500.00	3
10	Dr. Neeraj	Neurology	9000000010	neeraj@hosp.com	1400.00	11
11	Dr. Suresh	Cardiology	9000000011	suresh@hospital....	1800.00	9
* NULL	NULL	NULL	NULL	NULL	NULL	NULL

Result Grid |  Filter Rows:  | Edit:    | Export/Import:   | Wrap Cell Content: 

	appointment_id	patient_id	doctor_id	appointment_date	status
▶	1	1	1	2024-03-01	Completed
	2	2	2	2024-03-02	Scheduled
	3	3	3	2024-02-20	Completed
	4	4	4	2024-02-15	Cancelled
	5	5	5	2024-01-10	Completed
	6	6	6	2024-03-03	Scheduled
	7	7	7	2024-02-01	Completed
	8	8	8	2024-01-20	Completed
	9	9	9	2024-03-05	Scheduled
	10	10	10	2024-02-10	Completed
	11	11	11	2026-02-25	Scheduled
✱	NULL	NULL	NULL	NULL	NULL

```
177 • UPDATE Patients
178 SET address = 'Maninagar, Ahmedabad'
179 WHERE patient_id = 1;
180 • SELECT * FROM Patients;
```

121

Result Grid |  Filter Rows:  | Edit:    | Export/Import:   | Wrap Cell Content: 

	patient_id	name	dob	gender	phone_number	email	address	registration_date
▶	1	Amit Shah	1998-02-10	Male	9876543210	amit@gmail.com	Maninagar, Ahmedabad	2024-01-10
	2	Neha Patel	1999-05-12	Female	9876543211	neha@gmail.com	Surat	2024-02-15
	3	Rahul Mehta	1997-03-21	Male	9876543212	rahul@gmail.com	Vadodara	2024-03-10
	4	Priya Desai	2000-07-01	Female	9876543213	priya@gmail.com	Rajkot	2024-01-25
	5	Karan Joshi	1995-08-11	Male	9876543214	karan@gmail.com	Bhavnagar	2023-12-20
	6	Riya Sharma	2001-11-23	Female	9876543215	riya@gmail.com	Delhi	2024-02-05
	7	Arjun Verma	1996-06-19	Male	9876543216	arjun@gmail.com	Jaipur	2023-11-15
	8	Sneha Rao	1999-09-09	Female	9876543217	sneha@gmail.com	Mumbai	2024-03-01
	9	Vikram Singh	1994-04-18	Male	9876543218	vikram@gmail.com	Indore	2024-01-05
	10	Anjali Gupta	2002-12-02	Female	9876543219	anjali@gmail.com	Pune	2024-02-20
	11	Test User	2000-01-01	Male	9999999999	test@gmail.com	Test City	2024-03-01
	12	Test User	2000-01-01	Male	9999999999	test@gmail.com	Test City	2024-03-01
	13	Rohit Kumar	1999-04-15	Male	9898989898	rohit@gmail.com	Ahmedabad	2026-02-25
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	

```
191      # 2.----- WHERE,HAVING,LIMIT -----
```

192

```
193 • SELECT * FROM Patients WHERE registration_date >= DATE_SUB(CURDATE(), INTERVAL 1 YEAR);
```

Result Grid   Filter Rows:  Edit:    Export/Import:   Wrap Cell Content: 

[illegible]

```
195 # HAVING
196 • SELECT patient_id, SUM(amount) AS total_paid FROM Billing GROUP BY patient_id ORDER BY total_paid DESC LIMIT 5;
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:
	patient_id	total_paid			
▶	2	1500.00			
▶	10	1400.00			
▶	7	1300.00			
▶	1	1200.00			
▶	4	1100.00			

```
198 # LIMIT
199 • SELECT * FROM Doctors WHERE consultation_fee > 1000;
```










[illegible]

```
201      # 3.----- AND,OR,NOT -----
```

202

203 # AND

```
204 • SELECT * FROM Appointments WHERE status='Scheduled' AND doctor_id=3;
```

**Result Grid**


 Filter Rows: 
 Edit: 



 Export/Import: 

 Wrap Cell Content: 

	appointment_id	patient_id	doctor_id	appointment_date	status
1	NULL	NULL	NULL	NULL	NULL

206 # OR

```
207 • SELECT * FROM Doctors WHERE specialization='Cardiology' OR specialization='Neurology';
```

[illegible]

```

209 # NOT
210 • SELECT * FROM Patients WHERE patient_id NOT IN (SELECT patient_id FROM Appointments WHERE appointment_date >= DATE_S
...

```

Result Grid							
Filter Rows:							
Edit: Export/Import: Wrap Cell Content:							
	patient_id	name	dob	gender	phone_number	email	address
▶	1	Amit Shah	1998-02-10	Male	9876543210	amit@gmail.com	Maninagar, Ahmedabad
	2	Neha Patel	1999-05-12	Female	9876543211	neha@gmail.com	Surat
	3	Rahul Mehta	1997-03-21	Male	9876543212	rahul@gmail.com	Vadodara
	4	Priya Desai	2000-07-01	Female	9876543213	priya@gmail.com	Rajkot
	5	Karan Joshi	1995-08-11	Male	9876543214	karan@gmail.com	Bhavnagar
	6	Riya Sharma	2001-11-23	Female	9876543215	riya@gmail.com	Delhi
	7	Arjun Verma	1996-06-19	Male	9876543216	arjun@gmail.com	Jaipur
	8	Sneha Rao	1999-09-09	Female	9876543217	sneha@gmail.com	Mumbai
	9	Vikram Singh	1994-04-18	Male	9876543218	vikram@gmail.com	Indore
	10	Anjali Gupta	2002-12-02	Female	9876543219	anjali@gmail.com	Pune
	12	Test User	2000-01-01	Male	9999999999	test@gmail.com	Test City
	13	Rohit Kumar	1999-04-15	Male	9898989898	rohit@gmail.com	Ahmedabad
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL

```

212 # 4.----- ORDER BY , GROUP BY -----

```

```

213

```

```

214 • SELECT * FROM Doctors ORDER BY specialization;

```

Result Grid							
Filter Rows:							
Edit: Export/Import: Wrap Cell Content:							
	doctor_id	name	specialization	phone_number	email	consultation_fee	experience_years
▶	1	Dr. Mehul	Cardiology	9000000001	mehul@hosp.com	1200.00	12
	7	Dr. Alok	Cardiology	9000000007	alok@hosp.com	1300.00	16
	11	Dr. Suresh	Cardiology	9000000011	suresh@hospital.com	1800.00	9
	3	Dr. Nisha	Dermatology	9000000003	nisha@hosp.com	800.00	6
	6	Dr. Sanjay	ENT	9000000006	sanjay@hosp.com	600.00	5
	9	Dr. Aman	General	9000000009	aman@hosp.com	500.00	3
	8	Dr. Pooja	Gynecology	9000000008	pooja@hosp.com	900.00	7
	2	Dr. Rakesh	Neurology	9000000002	rakesh@hosp.com	1500.00	10
	10	Dr. Neeraj	Neurology	9000000010	neeraj@hosp.com	1400.00	11
	4	Dr. Kunal	Orthopedic	9000000004	kunal@hosp.com	1100.00	14
	5	Dr. Rina	Pediatrics	9000000005	rina@hosp.com	700.00	8
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL

```

215 • SELECT doctor_id, COUNT(*) AS total_patients FROM Appointments GROUP BY doctor_id;

```

```

216 • SELECT d.department_name, SUM(b.amount) FROM Billing b

```

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

	doctor_id	total_patients
▶	1	1
	2	1
	3	1
	4	1
	5	1
	6	1
	7	1
	8	1
	9	1
	10	1
	11	1

```

218 # GROUP BY
219 • SELECT d.department_name, SUM(b.amount) FROM Billing b
220 JOIN Appointments a ON b.appointment_id=a.appointment_id
221 JOIN Doctor_Department dd ON a.doctor_id=dd.doctor_id
222 JOIN Departments d ON dd.department_id=d.department_id
223 GROUP BY d.department name:

```

Result Grid |   Filter Rows:  | Export:  | Wrap Cell Content: 

	department_name	SUM(b.amount)
▶	Cardiology	2500.00
	Neurology	2900.00
	Dermatology	800.00
	Orthopedic	1100.00
	Pediatrics	700.00
	ENT	600.00
	Gynecology	900.00
	General	500.00

```

225 # 5.----- AGGREGATE FUNCTIONS -----

```

```

226

```

```

227 • SELECT SUM(amount) AS total_revenue FROM Billing WHERE payment_status='Paid';

```






Result Grid |   Filter Rows:  | Export:  | Wrap Cell Content: 

	total_revenue
▶	6300.00

```

228 • SELECT doctor_id, COUNT(*) AS visits FROM Appointments GROUP BY doctor_id ORDER BY visits DESC LIMIT 1;

```

Result Grid |   Filter Rows:  | Export:  | Wrap Cell Content:  | Fetch rows: 

	doctor_id	visits
▶	1	1

```

229 • SELECT AVG(consultation_fee) FROM Doctors;

```

```

229 • SELECT AVG(consultation_fee) FROM Doctors;

```




Result Grid |   Filter Rows:  | Export:  | Wrap Cell Content: 

	AVG(consultation_fee)
▶	1072.727273

```

1      # 7.----- JOINS -----
2
3      # ----INNER JOIN----
4      • SELECT d.doctor_id, d.name AS doctor_name, dep.department_name
5          FROM Doctors d
6          INNER JOIN Doctor_Department dd ON d.doctor_id = dd.doctor_id
7          INNER JOIN Departments dep ON dd.department_id = dep.department_id;
8

```

ult Grid |   Filter Rows:  | Export:  | Wrap Cell Content: 

doctor_id	doctor_name	department_name
1	Dr. Mehul	Cardiology
7	Dr. Alok	Cardiology
2	Dr. Rakesh	Neurology
10	Dr. Neeraj	Neurology
3	Dr. Nisha	Dermatology
4	Dr. Kunal	Orthopedic
5	Dr. Rina	Pediatrics
6	Dr. Sanjay	ENT
8	Dr. Pooja	Gynecology
9	Dr. Aman	General

```

239      # -----LEFT JOIN-----
240      • SELECT p.patient_id, p.name, a.appointment_date, a.status
241          FROM Patients p
242          LEFT JOIN Appointments a
243              ON p.patient_id = a.patient_id
244          WHERE a.status = 'Completed';

```



Result Grid |   Filter Rows:  | Export:  | Wrap Cell Content: 

	patient_id	name	appointment_date	status
▶	1	Amit Shah	2024-03-01	Completed
	3	Rahul Mehta	2024-02-20	Completed
	5	Karan Joshi	2024-01-10	Completed
	7	Arjun Verma	2024-02-01	Completed
	8	Sneha Rao	2024-01-20	Completed
	10	Anjali Gupta	2024-02-10	Completed

```

246      # ----- RIGHT JOIN-----
247 •    SELECT a.appointment_id, a.appointment_date, b.payment_status
248      FROM Billing b
249      RIGHT JOIN Appointments a
250      ON b.appointment_id = a.appointment_id
251      WHERE b.appointment_id IS NULL;

```

Result Grid |   Filter Rows:  | Export:  | Wrap Cell Content: 

	appointment_id	appointment_date	payment_status
▶	11	2026-02-25	NULL

```

253      #-----FULL OUTER JOIN-----
254
255 •    SELECT p.patient_id, p.name
256      FROM Patients p
257      LEFT JOIN Appointments a
258      ON p.patient_id = a.patient_id
259      WHERE a.appointment_id IS NULL;

```





Result Grid |   Filter Rows:  | Export:  | Wrap Cell Content: 

	patient_id	name
▶	12	Test User
	13	Rohit Kumar

```

---
266      # 8.----- SUBQUERIES -----
267 •    SELECT d.doctor_id, d.name AS doctor_name, COUNT(a.appointment_id) AS total_appointments
268      FROM Appointments a
269      JOIN Doctors d
270      ON a.doctor_id = d.doctor_id
271      GROUP BY d.doctor_id, d.name
272      HAVING COUNT(a.appointment_id) > 5;

```






Result Grid |   Filter Rows:  | Export:  | Wrap Cell Content: 

	doctor_id	doctor_name	total_appointments
▶	1	Dr. Mehul	6

```

273
274 •    SELECT patient_id FROM Billing GROUP BY patient_id ORDER BY SUM(amount) DESC LIMIT 1;

```

Result Grid |   Filter Rows:  | Export:  | Wrap Cell Content:  | Fetch rows: 

	patient_id
▶	2

275 • `SELECT * FROM Appointments WHERE doctor_id IN (SELECT doctor_id FROM Doctors WHERE specialization='Dermatology');`

Result Grid	Filter Rows:	Edit:	Export/Import:	Wrap Cell Content:
appointment_id	patient_id	doctor_id	appointment_date	status
3	3	3	2024-02-20	Completed
NULL	NULL	NULL	NULL	NULL

277 # 9.----- DATE FUNCTIONS -----

278

279 • `SELECT MONTH(appointment_date), COUNT(*) FROM Appointments GROUP BY MONTH(appointment_date);`

280

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

	MONTH(appointment_date)	COUNT(*)
▶	3	9
	2	5
	1	2

281 • `SELECT DATEDIFF('2024-03-10','2024-03-01') AS stay_days;`

282

Result Grid

<

283 • `SELECT DATE_FORMAT(treatment_date,'%d-%m-%Y') FROM Medical_Records;`

284

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

	DATE_FORMAT(treatment_date,'%d-%m-%Y')
▶	01-03-2024
	02-03-2024
	20-02-2024
	15-02-2024
	10-01-2024
	03-03-2024
	01-02-2024
	20-01-2024
	05-03-2024
	10-02-2024



285 # 10.----- STRING FUNCTIONS -----

286

287 • `SELECT UPPER(name) FROM Patients;`

Result Grid   Filter Rows:  Export:  Wrap Cell Content: 

	UPPER(name)
▶	AMIT SHAH
	NEHA PATEL
	RAHUL MEHTA
	PRIYA DESAI
	KARAN JOSHI
	RIYA SHARMA
	ARJUN VERMA
	SNEHA RAO
	VIKRAM SINGH
	ANJALI GUPTA
	TEST USER
	TEST USER
	ROHIT KUMAR

288

289 • `SELECT TRIM(name) FROM Doctors;`

Result Grid   Filter Rows:  Export:  Wrap Cell Content: 

	TRIM(name)
▶	Dr. Mehul
	Dr. Rakesh
	Dr. Nisha
	Dr. Kunal
	Dr. Rina
	Dr. Sanjay
	Dr. Alok
	Dr. Pooja
	Dr. Aman
	Dr. Neeraj
	Dr. Suresh

290

```
291 • SELECT IFNULL(phone_number, 'Not Available') FROM Patients;
```

Result Grid



Filter Rows:

Export:



Wrap Cell Content:



	IFNULL(phone_number, 'Not Available')
▶	9876543210
	9876543211
	9876543212
	9876543213
	9876543214
	9876543215
	9876543216
	9876543217
	9876543218
	9876543219
	9999999999
	9999999999
	9898989898

293 # 11.----- WINDOW FUNCTIONS -----

294

```
295 • SELECT doctor_id, COUNT(*) AS total_visits,  
296        RANK() OVER (ORDER BY COUNT(*) DESC) AS rank_no  
297        FROM Appointments GROUP BY doctor_id;
```

298

Result Grid



Filter Rows:

Export:





Wrap Cell Content:





	doctor_id	total_visits	rank_no
▶	1	6	1
	2	1	2
	3	1	2
	4	1	2
	5	1	2
	6	1	2
	7	1	2
	8	1	2
	9	1	2
	10	1	2
	11	1	2

```
99 • SELECT payment_date, SUM(amount) OVER (ORDER BY payment_date) AS running_revenue FROM Billing;
```

Result Grid	
Filter Rows: <input type="text"/>	
Export:  Wrap Cell Content: 	
payment_date	running_revenue
NULL	3700.00
NULL	3700.00
NULL	3700.00
NULL	3700.00
2024-01-10	4400.00
2024-01-20	5300.00
2024-02-01	6600.00
2024-02-10	8000.00
2024-02-20	8800.00
2024-03-01	10000.00

```
301 • SELECT appointment_date, COUNT(*) OVER (ORDER BY appointment_date) AS running_appointments FROM Appointments;
```

Result Grid	
Filter Rows: <input type="text"/>	
Export:  Wrap Cell Content: 	
appointment_date	running_appointments
2024-01-10	1
2024-01-20	2
2024-02-01	3
2024-02-10	4
2024-02-15	5
2024-02-20	6
2024-03-01	7
2024-03-02	8
2024-03-03	9
2024-03-05	10
2024-03-06	11
2024-03-07	12
2024-03-08	13
2024-03-09	14
2024-03-10	15
2026-02-25	16

```

303 # 12.----- CASE EXPRESSION -----
304
305 • SELECT p.patient_id,
306 CASE
307     WHEN COUNT(m.record_id) > 5 THEN 'High'
308     WHEN COUNT(m.record_id) BETWEEN 3 AND 5 THEN 'Medium'
309     ELSE 'Low'
310 END AS Patient_Risk_Level
311 FROM Patients p
312 LEFT JOIN Medical_Records m ON p.patient_id=m.patient_id
313 GROUP BY p.patient_id;
314

```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:
	patient_id	Patient_Risk_Level			
▶	1	Low			
	2	Low			
	3	Low			
	4	Low			
	5	Low			
	6	Low			
	7	Low			
	8	Low			
	9	Low			
	10	Low			
	11	Low			
	12	Low			
	13	Low			