

SOL PROJECT

Hospital Management Analysis

BY - Riya Tiwari

Objective



The primary objective of this project is to develop a comprehensive and efficient Hospital Management System (HMS) using SQL to streamline and enhance the management of hospital operations.

The system aims to:

- Enhance Data Management and Accessibility,
- Improve Patient Care and Experience,
- Streamline Administrative Processes,
- Ensure Data Security and Privacy,
- Enable Effective Reporting and Analytics.

By achieving these objectives, the project aims to enhance the overall efficiency, effectiveness, and quality of hospital management ultimately leading to improved patient satisfaction and operational excellence.



Part -1

(Easy Question)

Question 1.

Show first name, last name, and gender of patients whose gender is 'M'.

```
SELECT  
    first_name, last_name, gender  
FROM  
    patients  
WHERE  
    gender = 'M';
```

	first_name	last_name	gender
▶	Donald	Waterfield	M
	Mickey	Baasha	M
	Jiji	Sharma	M
	Blair	Diaz	M
	Charles	Wolfe	M
	Thomas	ONeill	M
	Sonny	Beckett	M
	Cedric	Coltrane	M
	Hank	Spencer	M
	Rick	Bennett	M
	Woody	Bashir	M
	Tom	Halliwell	M
	John	West	M
	Jon	Doggett	M
	Nino	Andrews	M
	John	Farley	M



```
SELECT  
    first_name, last_name, weight  
FROM  
    patients  
WHERE  
    weight BETWEEN 100 AND 120;
```

Question 2.
Show first name and last name of patients that weight within the range of 100 to 120 (inclusive).

Result Grid | Filter Rows:

	first_name	last_name	weight
▶	Jiji	Sharma	106
	Blair	Diaz	104
	Thomas	ONeill	117
	Sonny	Beckett	105
	Tom	Halliwell	114
	Jon	Doggett	116
	Angel	Edwards	106
	John	Farley	104
	Temple	Russert	102
	Don	Edwards	118
	Gary	Ramotswe	101
	Phil	Chester	112
	Woody	Riviera	109
	Rocky	Donahue	110
	Shiro	Whale	117
	Didi	Dean	110





Question3.

Show first name of patients that start with the letter 'C'.

```
SELECT  
    first_name  
FROM  
    patients  
WHERE  
    first_name LIKE 'C%';
```

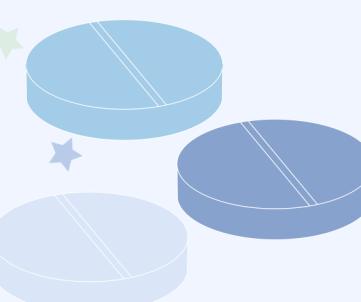
	first_name
▶	Charles
	Cedric
	Charles
	Cross
	Calleigh
	Catherine
	Caroline
	Casanova
	Chen
	Charmian
	Cary
	Christine
	Carol
	Corrado
	Cordelia



Question 4.

Show first name and last name concatenated into one column to show their full name.

```
SELECT  
    CONCAT(first_name, ' ', last_name) AS full_name  
FROM  
    patients;
```



Result Grid

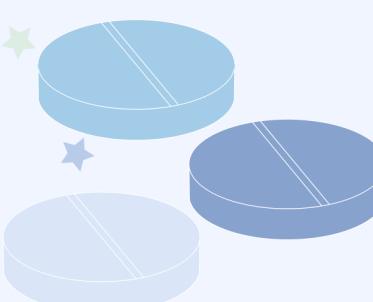
	full_name
▶	Donald Waterfield
▶	Mickey Baasha
▶	Jiji Sharma
▶	Blair Diaz
▶	Charles Wolfe
▶	Sue Falcon
▶	Thomas O'Neill
▶	Sonny Beckett
▶	Sister Spitzer
▶	Cedric Coltrane
▶	Hank Spencer
▶	Sara di Marco
▶	Daphne Seabright
▶	Rick Bennett
▶	Amy Leela
▶	Woody Bashir



Question 5.

Show first name, last name, and the full province name of each patient.

```
SELECT  
    first_name, last_name, province_name  
FROM  
    patients  
    JOIN  
    province_names ON patients.province_id = province_names.province_id;
```



	first_name	last_name	province_name
▶	Donald	Waterfield	Ontario
	Mickey	Baasha	Ontario
	Jiji	Sharma	Ontario
	Blair	Diaz	Ontario
	Charles	Wolfe	Ontario
	Sue	Falcon	Ontario
	Thomas	O'Neill	Ontario
	Sonny	Beckett	Nova Scotia
	Sister	Spitzer	Ontario
	Cedric	Coltrane	Ontario
	Hank	Spencer	Ontario
	Sara	di Marco	Ontario
	Daphne	Seabright	Ontario
	Rick	Bennett	Ontario
	Amy	Leela	Ontario
	Woody	Bashir	Ontario

Question 6.
Show how many patients have a birth_date with
2010 as the birth year.

```
SELECT  
    COUNT(patient_id)  
FROM  
    patients  
WHERE  
    YEAR(birth_date) = '2010';
```

	Result Grid	grid icon	refresh icon	F
COUNT(patient_id)				
▶	55			

Question 7.
Show the first_name, last_name, and height of
the patient with the greatest height.

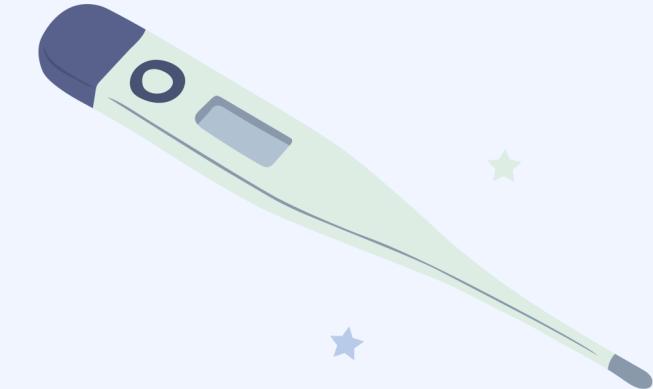
```
SELECT  
    first_name, last_name, height  
FROM  
    patients  
ORDER BY height DESC  
LIMIT 1;
```

Result Grid | Filter Rows:

	first_name	last_name	height
▶	Sam	Haruko	226

Question 8.

Show all columns for patients who have one of the following patient_ids: 1,45,534,879,1000.



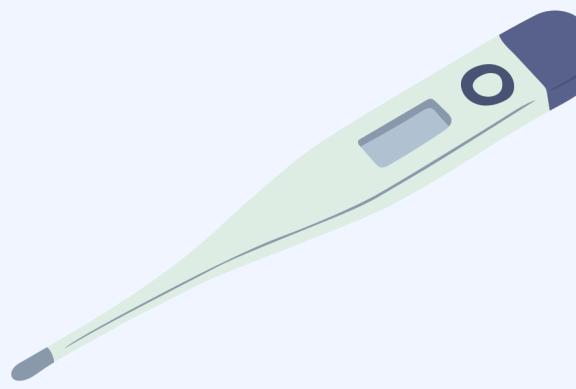
```
SELECT
    *
FROM
    patients
WHERE
    patient_id IN (1 , 45, 534, 879, 1000)
```

Question 9.
Show the total number of admissions.

```
SELECT  
    COUNT(*) AS total_admissions  
FROM  
    admissions;
```

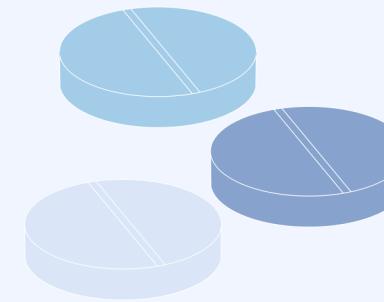
Result Grid

	total_admissions
5067	5067

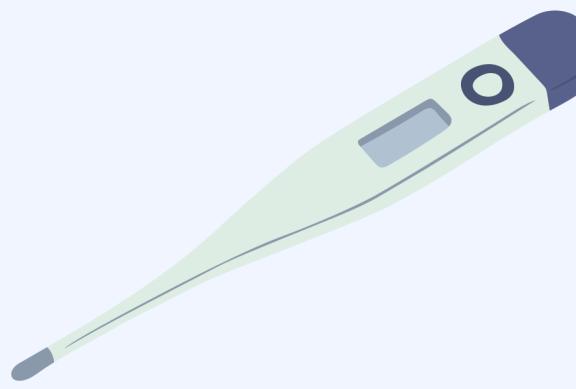


Question 10.
Show all the columns from admissions
where the patient was admitted and
discharged on the same day.

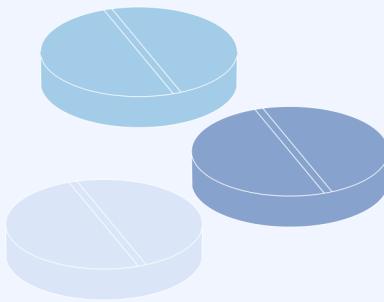
SELECT
*
FROM
admissions
WHERE
admission_date = discharge_date;



patient_id	admission_date	discharge_date	diagnosis	attending_doctor
1	2018-09-20	2018-09-20	Ineffective Breathing Pattern R/T Fluid Accumulation	24
9	2018-12-31	2018-12-31	Ruptured Appendicitis	19
10	2019-02-27	2019-02-27	Lower Quadrant Pain	27
17	2019-03-04	2019-03-04	Diabetes Mellitus	9
28	2019-03-30	2019-03-30	Cancer Of The Stomach	26
31	2018-09-26	2018-09-26	Cardiovascular Disease	19
53	2018-10-24	2018-10-24	Urinary Tract Infection	8
54	2019-04-07	2019-04-07	Hypertension	21
70	2018-07-17	2018-07-17	Migraine	20
78	2018-06-17	2018-06-17	Hypertension	17
91	2018-08-30	2018-08-30	Congestive Heart Failure	3
92	2019-01-03	2019-01-03	Osteo Arthritis Knee	5
93	2019-05-20	2019-05-20	Left Cerebral Vascular Accident	12
110	2019-02-18	2019-02-18	Biliary Colic	14
111	2018-08-25	2018-08-25	Subdural Hematoma	27
113	2018-10-21	2018-10-21	2nd & 3rd Degree Burns To Right Arm / Both Legs	13



Question II.
**Show the patient id and the total number
of admissions for patient_id 579.**



```
SELECT
    patient_id, COUNT(*) AS total_admissions
FROM
    admissions
WHERE
    patient_id = 579;
```

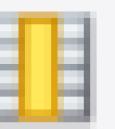


Result Grid |   Filter Rows

	patient_id	total_admissions
▶	579	2

Question 12.
Based on the cities that our patients live in, show unique cities that are in province_id 'NS'?

```
SELECT DISTINCT  
    city AS unique_cities  
FROM  
    patients  
WHERE  
    province_id = 'NS';
```

| Result Grid |  

	unique_cities
▶	Port Hawkesbury
	Halifax
	Inverness

Question 13.

Write a query to find the first_name, last name and birth date of patients who has height greater than 160 and weight greater than 70.

```
SELECT  
    first_name, last_name, birth_date  
FROM  
    patients  
WHERE  
    height > 160 AND weight > 70;
```

	first_name	last_name	birth_date
▶	Mickey	Baasha	1981-05-28
	Jiji	Sharma	1957-09-05
	Blair	Diaz	1967-01-07
	Thomas	ONeill	1993-01-31
	Sonny	Beckett	1952-12-11
	Sister	Spitzer	1966-10-15
	Rick	Bennett	1977-01-27
	Amy	Leela	1977-06-25
	Tom	Halliwell	1987-08-01
	Rachel	Winterbourne	1966-04-26
	Jon	Doggett	1951-12-25
	Angel	Edwards	1975-08-22
	Nino	Andrews	2001-04-21
	John	Farley	1956-09-12
	Luaille	Maureen	1953-08-22

Question 14.

Write a query to find list of patients first_name, last_name, and allergies where allergies are not null and are from the city of 'Hamilton'.

```
SELECT  
    first_name, last_name, allergies  
FROM  
    patients  
WHERE  
    allergies IS NOT NULL  
    AND city = 'Hamilton';
```

	first_name	last_name	allergies
▶	Jiji	Sharma	Penicillin
	Tom	Halliwell	Ragweed
	Nino	Andrews	Peanuts
	John	Farley	Gluten
	Sam	Threep	Sulpha
	Temple	Russert	Hay Fever
	Alice	Donovan	Penicillin
	Stone	Cutting	Codeine
	Phil	Chester	Penicillin
	Roland	Murphy	Sulfa Drugs
	Shiro	Whale	Penicillin
	Calleigh	Dean	Penicillin
	Lily	Vargas	Codeine
	Kazuki	Ranall	Penicillin
	Mike	Mars	Penicillin
	Matt	Goergen	Penicillin



Thank you!

