

SQL PROJECT

HOSPITAL MANAGEMENT ANALYSIS

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OBJECTIVE

- ❖ **The primary objective of hospital management analysis is to optimize the efficiency and effectiveness of healthcare delivery within a hospital or healthcare system.**

- ❖ This involves assessing various aspects such as resource allocation, patient flow, quality of care, and financial performance to enhance patient outcomes while managing costs and resources effectively.

HOSPITAL DATABASE SCHEMA

Hospital Management Analysis

patients	
patient_id	INTEGER
first_name	VARCHAR(30)
last_name	VARCHAR(30)
gender	CHAR(1)
birth_date	DATE
city	VARCHAR(30)
province_id	CHAR(2)
allergies	VARCHAR(80)
height	DECIMAL(3,0)
weight	DECIMAL(4,0)

doctors	
doctor_id	INTEGER
first_name	VARCHAR(30)
last_name	VARCHAR(30)
specialty	VARCHAR(25)

admissions	
patient_id	INT
admission_date	DATE
discharge_date	DATE
diagnosis	VARCHAR(50)
attending_doctor_id	INT

province_names	
province_id	CHAR(2)
province_name	VARCHAR(30)



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



QUESTION- 2

Show first name and last name of patients that weight within the range of 100 to 120

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


	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



QUESTION-3

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



QUESTION- 4

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

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

	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



QUESTION- 5

Show first name, last name, and the full province name of each patient.
(Example: 'Ontario' instead of 'ON')

```
SELECT
    first_name, last_name, province_name
FROM
    patients
    INNER 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	ONeill	Ontario
	Sonny	Beckett	Nova Scotia
	Sister	Spitzer	Ontario
	Cedric	Coltrane	Ontario
	Hank	Spencer	Ontario



QUESTION- 6

Show how many patients have a birthdate with 2010 as the birth year.

```
• SELECT  
  COUNT(*) AS total_patients  
FROM patients  
WHERE YEAR(birth_date) = 2010 ;
```

	total_patients
▶	55

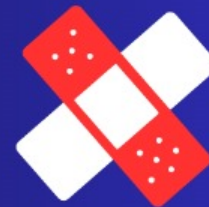


QUESTION-7

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 ;
```

	first_name	last_name	height
►	Sam	Haruko	226



QUESTION- 8

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

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

	patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
▶	1	Donald	Waterfield	M	1963-02-12	Barrie	ON	Null	156	65
	45	Cross	Gordon	M	2009-03-20	Ancaster	ON	Null	125	53
	534	Don	Zatara	M	2008-01-11	Timmins	ON	Null	136	67
	879	Orla	Shawn	F	1967-09-24	Sarnia	ON	Penicillin	149	65
	1000	Rick	Williams	M	1975-04-13	Hamilton	ON	Penicillin	176	127

QUESTION- 9

Show the total number of admissions.

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

	total_admissions
▶	5065

Hospital Management Analysis



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 LIKE discharge_date ;
```

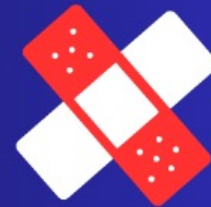
	patient_id	admission_date	discharge_date	diagnosis	attending_doctor_id
▶	1	2018-09-20	2018-09-20	Ineffective Breathin Pattern R/T Fluid Accumulatio	24
	9	2018-12-31	2018-12-31	Ruptured Appendicitis	19
	10	2019-02-27	2019-02-27	Lower Quadrant Pain	27
	17	2019-03-04	2019-03-04	Diabetes Mellitus	9
	28	2019-03-30	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

QUESTION- 11

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 ;
```

	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_city  
  FROM patients  
 WHERE province_id = 'NS' ;
```

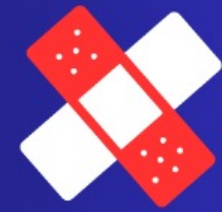
	unique_city
▶	Port Hawkesbury
	Halifax
	Inverness

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



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
	Blair	Diaz	Null
	Sara	di Marco	Null
	Amy	Leela	Null
	Tom	Halliwell	Ragweed
	Rachel	Winterbourne	Null
	Jon	Doggett	Null
	Nino	Andrews	Peanuts
	John	Farley	Gluten



THANK YOU !!

