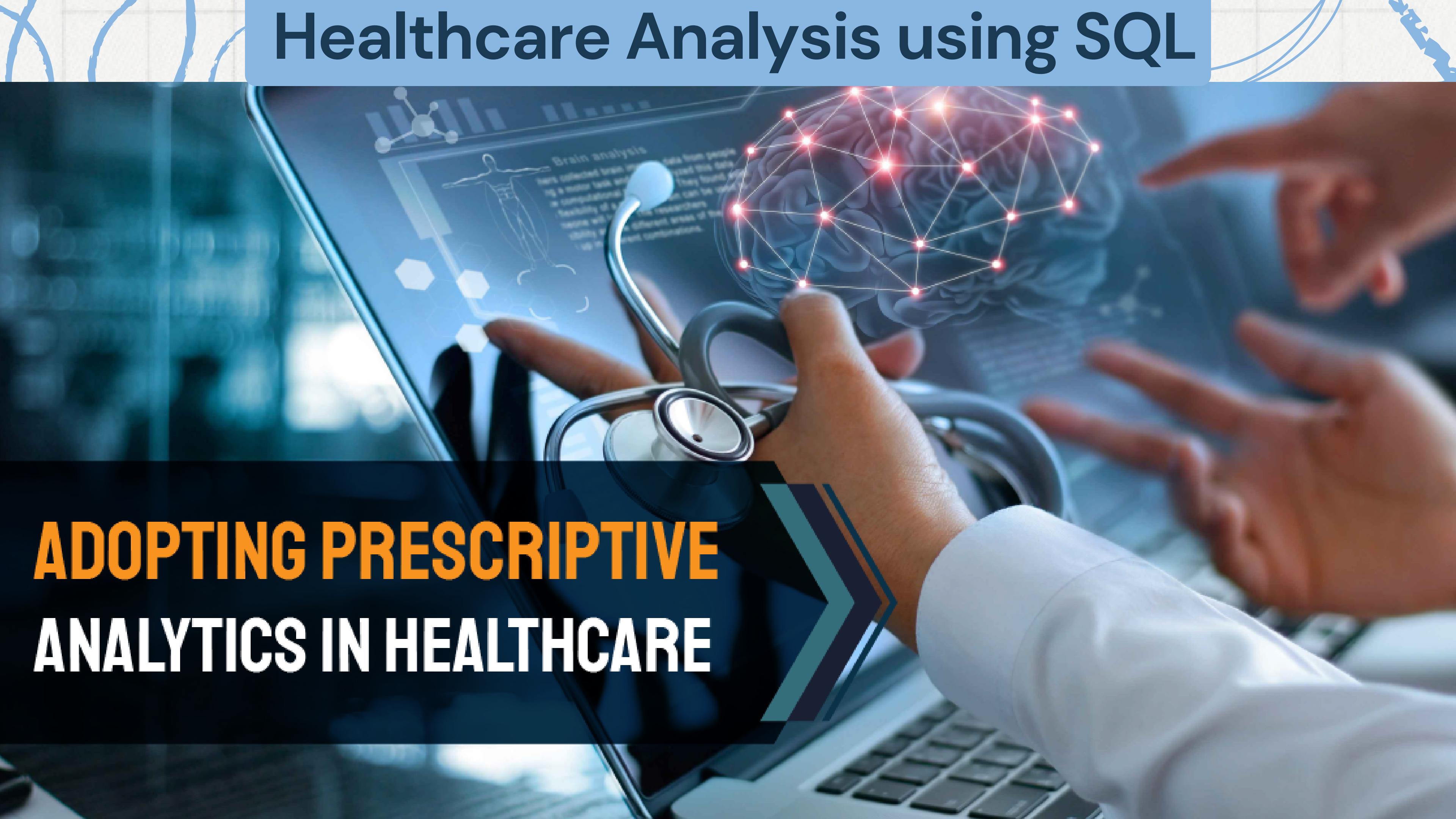


Healthcare Analysis using SQL



**ADOPTING PRESCRIPTIVE
ANALYTICS IN HEALTHCARE**

CHALLENGE

You are a Healthcare Analyst You have been asked to Analyse the hospital records to track the progress of some common illnesses so you can help inform a public health programme.

Tables

diagnoses

patients

symptoms

visits

1. Write a SQL query to retrieve all patients who have been diagnosed with COVID-19.

```
95      #QUESTIONS:  
96      #1. Write a SQL query to retrieve all patients who have been diagnosed with COVID-19::  
97 •      select      patients.patient_name , diagnoses.diagnosis_name from diagnoses  
98      inner join visits  
99      on  
100     diagnoses.diagnosis_id=visits.diagnosis_id  
101     inner join patients  
102     on  
103     patients.patient_id=visits.patient_id  
104     where diagnosis_name="covid-19";
```

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

	patient_name	diagnosis_name
▶	David Kim	COVID-19
	John Smith	COVID-19

2. Write a SQL query to retrieve the number of visits made by each patient, ordered by the number of visits in descending order.

```
107
108  #2. Write a SQL query to retrieve the number of visits made by each patient,
109  #ordered by the number of visits in descending order.
110 • select patient_name , count(visit_id) as number_of_visits from visits
111   inner join patients
112   on
113     visits.patient_id=patients.patient_id
114   group by patient_name
115   order by number_of_visits desc;
116
```

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

	patient_name	number_of_visits
▶	John Smith	3
	Mike Johnson	3
	Jane Doe	2
	Lisa Jones	1
	David Kim	1

Result 111 x

Output

3. Write a SQL query to calculate the average age of patients who have been diagnosed with Pneumonia.

The screenshot shows a MySQL Workbench interface with a SQL editor and a results grid.

SQL Editor Content:

```
116
117      #3. Write a SQL query to calculate the average age of patients who have been diagnosed with Pneumonia.
118 •  select  diagnoses.diagnosis_name ,  avg(age) as average_of_patients from  diagnoses
119    inner join  visits
120    on
121      diagnoses.diagnosis_id=visits.diagnosis_id
122    inner join  patients
123    on
124      patients.patient_id=visits.patient_id
125    where  diagnoses.diagnosis_name="pneumonia"
126    group by  diagnoses.diagnosis_name;
~~~
```

Result Grid:

diagnosis_name	average_of_patients
Pneumonia	50.0000

4. Write a SQL query to retrieve the top 3 most common symptoms among all visits.

```
127  
128      #4. Write a SQL query to retrieve the top 3 most common symptoms among all visits.  
129 •  SELECT symptoms.symptom_name , COUNT(*) AS symptom_count FROM symptoms  
130     inner join visits  
131     on  
132         symptoms.symptom_id=visits.symptom_id  
133     GROUP BY symptoms.symptom_name  
134     ORDER BY symptom_count DESC  
135     LIMIT 3;  
136  
137
```

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

	symptom_name	symptom_count
▶	Cough	4
	Fever	3
	Fatigue	2

5. Write a SQL query to retrieve the patient who has the highest number of different symptoms reported.

```
139 •  select patients.patient_name , count(visits.symptom_id) as highest_number_symptoms  from patients
140  inner join visits
141  on
142  patients.patient_id=visits.patient_id
143  inner join symptoms
144  on
145  symptoms.symptom_id=visits.symptom_id
146  group by patients.patient_name
147  order by highest_number_symptoms desc;
148
149
```

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

patient_name	highest_number_symptoms
John Smith	3
Mike Johnson	3
Jane Doe	2
Lisa Jones	1
David Kim	1

6. Write a SQL query to calculate the percentage of patients who have been diagnosed with COVID-19 out of the total number of patients.

```
149  
150      #6. Write a SQL query to calculate the percentage of patients who have been diagnosed  
151      #with COVID-19 out of the total number of patients.  
152 •   SELECT  
153          (COUNT(CASE WHEN diagnosis_name = 'COVID-19' THEN 1 END) * 100.0) / COUNT(*) AS percentage_diagnosed  
154      FROM diagnoses;  
155  
156
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:		
<table border="1"><thead><tr><th>percentage_diagnosed_covid</th></tr></thead><tbody><tr><td>20.00000</td></tr></tbody></table>				percentage_diagnosed_covid	20.00000	
percentage_diagnosed_covid						
20.00000						

7. Write a SQL query to retrieve the top 5 cities with the highest number of visits, along with the count of visits in each city.

```
157 #7. Write a SQL query to retrieve the top 5 cities with the highest number of visits,  
158 #along with the count of visits in each city.  
159  
160 • select city ,count(*) as visit_count from patients  
161 inner join visits  
162 on  
163 patients.patient_id=visits.patient_id  
164 group by city  
165 order by visit_count desc  
166 limit 5;  
167
```

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

city	visit_count
Seattle	6
Miami	3
Chicago	1

8. Write a SQL query to find the patient who has the highest number of visits in a single day, along with the corresponding visit date.

```
168      #8. Write a SQL query to find the patient who has the highest number of visits in a single day,  
169      #along with the corresponding visit date.  
170 •  select patients.patient_id , patients.patient_name ,visits.visit_date , count(visit_id) as visit_count from patients  
171      join visits  
172      on  
173      patients.patient_id=visits.patient_id  
174      group by  patients.patient_id , patients.patient_name ,visits.visit_date  
175      order by visit_count desc  
176      limit 1;
```

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

	patient_id	patient_name	visit_date	visit_count
▶	3	Mike Johnson	2022-05-20	2

9. Write a SQL query to retrieve the average age of patients for each diagnosis, ordered by the average age in descending order.

```
178  #9. Write a SQL query to retrieve the average age of patients for each diagnosis,
179  #ordered by the average age in descending order.
180 • select diagnoses.diagnosis_name , avg(age) as average_age  from diagnoses
181  inner join visits
182  on
183  diagnoses.diagnosis_id=visits.diagnosis_id
184  inner join patients
185  on
186  patients.patient_id=visits.patient_id
187  group by diagnoses.diagnosis_name
188  order by average_age desc;
189
```

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

diagnosis_name	average_age
COVID-19	52.5000
Pneumonia	50.0000
Influenza	45.0000
Common Cold	44.2500
Bronchitis	30.0000

10. Write a SQL query to calculate the cumulative count of visits over time, ordered by the visit date.

```
190
191      #10. Write a SQL query to calculate the cumulative count of visits over time, ordered by the visit date.
192 •  select  visit_date ,count(visit_id) from visits
193      group by visit_date
194      order by count(visit_id) desc;
```

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

visit_date	count(visit_id)
2022-01-02	2
2022-01-03	2
2022-05-20	2
2022-01-01	1
2022-05-13	1
2022-08-19	1
2022-12-01	1

Thank you

[https://github.com/Jashfg/SQL-Challenge---
Healthcare_Analysis/tree/main](https://github.com/Jashfg/SQL-Challenge---Healthcare_Analysis/tree/main)