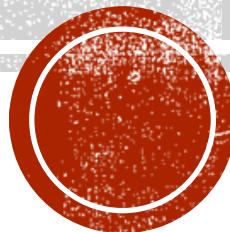


# HEALTHCARE MANAGEMENT DATA ANALYSIS

This project analyzes hospital operations using patient, doctor, appointment, treatment, and billing datasets. It provides insights into appointment trends, treatment costs, doctor performance, and payment patterns to improve decision-making and healthcare efficiency.



## EXPLORE THE DATA USING EXCEL. UNDERSTAND THE DATA AND PREPARE A SHORT SUMMARY ABOUT THE DATASET.

- **Appointments Sheet:** Tracks patient appointments with details such as appointment ID, patient ID, doctor ID, date, reason for visit (e.g., therapy, checkup, consultation), appointment status (Scheduled, Completed, Cancelled, No-show), and No-show flag.
- **Patients Sheet:** Contains patient demographics, including patient ID, gender, address, registration date, insurance provider, full name, and age.
- **Doctors Sheet:** Includes information about doctors such as doctor ID, specialization (Dermatology, Pediatrics, Oncology, etc.), years of experience, hospital branch, and full name.
- **Treatments Sheet:** Records treatments linked to appointments. Each treatment entry has a treatment ID, appointment ID, treatment type (Chemotherapy, MRI, X-Ray, etc.), description, cost, and treatment date.
- **Billing Sheet:** Manages billing information with bill ID, patient ID, treatment ID, bill date, amount, payment method (Insurance, Cash, Credit Card), payment status (Paid, Pending, Failed), and completion status.
-  Overall, this dataset provides a **comprehensive view of hospital operations**, covering patient demographics, doctor details, appointments, treatments, and billing. It can be used for **healthcare analytics**, such as analyzing appointment trends, patient demographics, doctor workloads, treatment costs, billing/payment patterns, and no-show rates.

PERFORM DATA CLEANING IF REQUIRED AND THEN DO STATISTICAL ANALYSIS ON DATA USING STATISTICAL TOOLS.

- In **Appointments sheet**, deleted the *Appointment Time* column as it was not required.
- In **Treatments sheet**, rounded the *Cost* column to 0 decimals for consistency.
- In **Patients sheet**, removed columns (*First Name*, *Last Name*, *Insurance Number*, *Email*, *Contact Number*) and created a single *Full Name* column.
- In **Doctors sheet**, removed columns (*First Name*, *Last Name*, *Phone Number*, *Email*) and created a single *Full Name* column.
-  This ensures a clean, consistent, and analysis-ready dataset.



# INSERT THE GIVEN DATA INTO THE SQL SERVER BY MAKING A DATABASE AND DEFINING THE REQUIRED PARAMETERS FOR THE CONSTRUCTION OF DATABASE AND DATABASE TABLES.

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator Attrition Health\_Care Capstone

SCHEMAS Filter objects

- Stored Procedures
- Functions
- harsh
- healthcare
  - Tables
    - appointment\_sheet
    - billing\_sheet
    - doctors\_sheet
    - patient\_sheet
    - treatment\_sheet
  - Views
  - Stored Procedures
  - Functions
- sys
- world

Administration Schemas

Information

Table: treatment\_sheet

Columns:

- treatment\_id text
- appointment\_id text
- treatment\_type text
- description text
- cost int
- treatment\_date text

Result Grid Filter Rows: Export: Wrap Cell Content: Result Grid Form Editor Field Types Query Stats Read Only

appointment_id	patient_id	doctor_id	appointment_date	reason_for_visit	status	No Shows
A001	P034	D009	09-08-2023	Therapy	Scheduled	No
A002	P032	D004	09-06-2023	Therapy	No-show	Yes
A003	P048	D004	28-06-2023	Consultation	Cancelled	Yes
A004	P025	D006	01-09-2023	Consultation	Cancelled	Yes
A005	P040	D003	06-07-2023	Emergency	No-show	Yes
A006	P045	D006	19-06-2023	Checkup	Scheduled	No
A007	P001	D007	09-04-2023	Consultation	Scheduled	No
A008	P016	D010	24-05-2023	Consultation	Cancelled	Yes
A009	P039	D010	05-03-2023	Follow-up	Scheduled	No
A010	P005	D003	13-01-2023	Therapy	Completed	No
A011	P022	D007	12-11-2023	Checkup	No-show	Yes
A012	P029	D003	07-05-2023	Follow-up	Completed	No
A013	P003	D002	16-08-2023	Emergency	Scheduled	No
A014	P012	D010	25-05-2023	Emergency	Cancelled	Yes

Output Action Output

#	Time	Action	Message	Duration / Fetch
1	23:54:12	select * from appointment_sheet LIMIT 0, 1000	200 row(s) returned	0.047 sec / 0.000 sec

Object Info Session

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

Stored Procedures  
Functions  
harsh  
healthcare  
Tables  
appointment\_sheet  
billing\_sheet  
doctors\_sheet  
patient\_sheet  
treatment\_sheet  
Views  
Stored Procedures  
Functions  
sys  
world

Administration Schemas

Information

Table: treatment\_sheet

Columns:

treatment_id	text
appointment_id	text
treatment_type	text
description	text
cost	int
treatment_date	text

Attrition Health\_Care\* Capstone

Limit to 1000 rows

10 • select \* from billing\_sheet;

11  
12  
13  
14  
15  
16  
17  
18  
19

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

bill_id	patient_id	treatment_id	bill_date	amount	payment_method	payment_status	Payment
B001	P034	T001	09-08-2023	3942	Insurance	Pending	Not Done
B002	P032	T002	09-06-2023	4158	Insurance	Paid	Done
B003	P048	T003	28-06-2023	3732	Insurance	Paid	Done
B004	P025	T004	01-09-2023	4800	Insurance	Failed	Not Done
B005	P040	T005	06-07-2023	582	Credit Card	Pending	Not Done
B006	P045	T006	19-06-2023	1381	Insurance	Pending	Not Done
B007	P001	T007	09-04-2023	534	Cash	Failed	Not Done
B008	P016	T008	24-05-2023	3414	Cash	Failed	Not Done
B009	P039	T009	05-03-2023	4541	Credit Card	Paid	Done
B010	P005	T010	13-01-2023	1596	Cash	Paid	Done
B011	P022	T011	12-11-2023	4672	Cash	Failed	Not Done
B012	P029	T012	07-05-2023	771	Insurance	Pending	Not Done
B013	P003	T013	16-08-2023	4705	Cash	Paid	Done
B014	P012	T014	25-05-2023	2082	Credit Card	Paid	Done
B015	P026	T015	15-01-2023	956	Insurance	Pending	Not Done

Result Grid Form Editor Field Types Query Stats

Read Only

Action Output

#	Time	Action	Message	Duration / Fetch
1	23:54:12	select * from appointment_sheet LIMIT 0, 1000	200 row(s) returned	0.047 sec / 0.000 sec
2	23:55:14	select * from billing_sheet LIMIT 0, 1000	200 row(s) returned	0.031 sec / 0.000 sec

Object Info Session

MySQL Workbench

Local instance MySQL80 ×

File Edit View Query Database Server Tools Scripting Help

Navigator Schemas

Filter objects

Schemas

Stored Procedures Functions

harsh

healthcare

Tables

appointment\_sheet billing\_sheet doctors\_sheet patient\_sheet treatment\_sheet

Views Stored Procedures Functions

sys world

Administration Schemas

Information

Table: treatment\_sheet

Columns:

treatment_id	text
appointment_id	text
treatment_type	text
description	text
cost	int
treatment_date	text

Attrition Health\_Care\* Capstone

Limit to 10000 rows

6

7

8 • select \* from doctors\_sheet;

9

10

11

12

13

14

15

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

doctor_id	specialization	years_experience	hospital_branch	Full Name
D001	Dermatology	17	Westside Clinic	David Taylor
D002	Pediatrics	24	Eastside Clinic	Jane Davis
D003	Pediatrics	19	Eastside Clinic	Jane Smith
D004	Pediatrics	28	Central Hospital	David Jones
D005	Dermatology	26	Central Hospital	Sarah Taylor
D006	Pediatrics	23	Central Hospital	Alex Davis
D007	Oncology	26	Westside Clinic	Robert Davis
D008	Dermatology	5	Westside Clinic	Linda Brown
D009	Pediatrics	26	Central Hospital	Sarah Smith
D010	Oncology	21	Eastside Clinic	Linda Wilson

Result Grid Form Editor Field Types Query Stats

Read Only

doctors\_sheet3 ×

Action Output

#	Time	Action	Message	Duration / Fetch
1	23:54:12	select * from appointment_sheet LIMIT 0, 1000	200 row(s) returned	0.047 sec / 0.000 sec
2	23:55:14	select * from billing_sheet LIMIT 0, 1000	200 row(s) returned	0.031 sec / 0.000 sec
3	23:56:42	select * from doctors_sheet LIMIT 0, 1000	10 row(s) returned	0.016 sec / 0.000 sec

Object Info Session

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

Stored Procedures  
Functions  
harsh  
**healthcare**  
Tables  
appointment\_sheet  
billing\_sheet  
doctors\_sheet  
**patient\_sheet**  
treatment\_sheet  
Views  
Stored Procedures  
Functions

sys  
world

Administration Schemas

Information

Table: **treatment\_sheet**

Columns:

- treatment\_id text
- appointment\_id text
- treatment\_type text
- description text
- cost int
- treatment\_date text

Attrition Health\_Care\* Capstone

select \* from patient\_sheet;

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

Treatment ID	Gender	Address	Registration Date	Insurance Provider	Full Name	Age
P001	Female	Pine Rd	23-06-2022	WellnessCorp	David Williams	70
P002	Female	Maple Dr	15-01-2022	PulseSecure	Emily Smith	40
P003	Male	Maple Dr	07-02-2022	PulseSecure	Laura Jones	47
P004	Female	Elm St	02-03-2021	HealthIndia	Michael Johnson	44
P005	Male	Elm St	29-09-2021	MedCare Plus	David Wilson	65
P006	Male	Maple Dr	02-10-2022	HealthIndia	Linda Jones	62
P007	Female	Pine Rd	25-12-2021	MedCare Plus	Alex Johnson	36
P008	Female	Oak Ave	25-05-2021	WellnessCorp	David Davis	49
P009	Male	Maple Dr	18-09-2022	PulseSecure	Laura Davis	53
P010	Male	Elm St	24-08-2022	WellnessCorp	Michael Taylor	23
P011	Female	Pine Rd	27-09-2022	MedCare Plus	Emily Jones	58
P012	Female	Maple Dr	27-04-2023	MedCare Plus	Laura Davis	33
P013	Female	Maple Dr	23-12-2021	WellnessCorp	Laura Johnson	35
P014	Male	Pine Rd	12-12-2023	MedCare Plus	Alex Taylor	57
P015	Male	Maple Dr	25-09-2021	WellnessCorp	Sarah Johnson	61

patient\_sheet 4

Result Grid | Form Editor | Field Types | Query Stats | Read Only

Action Output

#	Time	Action	Message	Duration / Fetch
1	23:54:12	select * from appointment_sheet LIMIT 0, 1000	200 row(s) returned	0.047 sec / 0.000 sec
2	23:55:14	select * from billing_sheet LIMIT 0, 1000	200 row(s) returned	0.031 sec / 0.000 sec
3	23:56:42	select * from doctors_sheet LIMIT 0, 1000	10 row(s) returned	0.016 sec / 0.000 sec
4	23:58:15	select * from patient_sheet LIMIT 0, 10000	50 row(s) returned	0.031 sec / 0.000 sec

Object Info Session

MySQL Workbench

Local instance MySQL80 ×

File Edit View Query Database Server Tools Scripting Help

Navigator

Attrition Health\_Care\* Capstone

Limit to 10000 rows

Filter objects

SCHEMAS

Stored Procedures Functions

harsh

healthcare

Tables

- appointment\_sheet
- billing\_sheet
- doctors\_sheet
- patient\_sheet
- treatment\_sheet

Views Stored Procedures Functions

sys world

Administration Schemas

Information

Table: treatment\_sheet

Columns:

- treatment\_id text
- appointment\_id text
- treatment\_type text
- description text
- cost int
- treatment\_date text

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

treatment_id	appointment_id	treatment_type	description	cost	treatment_date
T001	A001	Chemotherapy	Basic screening	3942	09-08-2023
T002	A002	MRI	Advanced protocol	4158	09-06-2023
T003	A003	MRI	Standard procedure	3732	28-06-2023
T004	A004	MRI	Basic screening	4800	01-09-2023
T005	A005	ECG	Standard procedure	582	06-07-2023
T006	A006	Chemotherapy	Standard procedure	1381	19-06-2023
T007	A007	Chemotherapy	Advanced protocol	534	09-04-2023
T008	A008	Physiotherapy	Basic screening	3414	24-05-2023
T009	A009	Physiotherapy	Standard procedure	4541	05-03-2023
T010	A010	Physiotherapy	Standard procedure	1596	13-01-2023
T011	A011	MRI	Basic screening	4672	12-11-2023
T012	A012	Chemotherapy	Standard procedure	771	07-05-2023
T013	A013	MRI	Standard procedure	4705	16-08-2023
T014	A014	ECG	Basic screening	2082	25-05-2023
T015	A015	Physiotherapy	Basic screening	956	15-01-2023

Result Grid Form Editor Field Types Query Stats

Read Only

treatment\_sheet 5 ×

Action Output

#	Time	Action	Message	Duration / Fetch
1	23:54:12	select * from appointment_sheet LIMIT 0, 1000	200 row(s) returned	0.047 sec / 0.000 sec
2	23:55:14	select * from billing_sheet LIMIT 0, 1000	200 row(s) returned	0.031 sec / 0.000 sec
3	23:56:42	select * from doctors_sheet LIMIT 0, 1000	10 row(s) returned	0.016 sec / 0.000 sec
4	23:58:15	select * from patient_sheet LIMIT 0, 10000	50 row(s) returned	0.031 sec / 0.000 sec
5	23:59:00	select * from treatment_sheet LIMIT 0, 10000	200 row(s) returned	0.031 sec / 0.000 sec

Object Info Session

# VERIFY IF THE DATA IS PROPERLY IMPORTED INTO THE SQL DATABASE (TRY RUNNING FEW QUERIES).

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator Health\_Care Capstone

Limit to 10000 rows

22    #1.How many patients are registered in the hospital?  
23 • select count(patient\_id) as Reg\_Patients  
24    from patient\_sheet;  
25  
26  
27  
28  
29  
30  
31

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

Reg\_Patients

50

Information

Column: appointment\_id

Collation: utf8mb4\_0900\_ai\_ci

Definition:

appointment\_id varchar(50)

Result 10 x

Action Output

#	Time	Action	Message	Duration / Fetch
11	22:49:10	select count(appointment_id) as Num_of_Appointment from appointment_sheet LIMIT 0, 10000	1 row(s) returned	0.000 sec / 0.000 sec
12	22:54:04	select status.count(appointment_id) as Total_Appointment from appointment_sheet group by status order by Total_Appointment	4 row(s) returned	0.000 sec / 0.000 sec
13	23:03:04	select gender.count(patient_id) as 'Total_Patient' from patient_sheet group by gender order by 'Total_Patient'	2 row(s) returned	0.000 sec / 0.000 sec
14	23:03:26	select gender.count(patient_id) as 'Total_Patient' from patient_sheet group by gender order by 'Total_Patient'	2 row(s) returned	0.000 sec / 0.000 sec
15	23:03:47	select gender.count(patient_id) as 'Total_Patient' from patient_sheet group by gender order by 'Total_Patient'	2 row(s) returned	0.000 sec / 0.000 sec
16	23:06:51	select count(patient_id) as Reg_Patients from patient_sheet LIMIT 0, 10000	1 row(s) returned	0.000 sec / 0.000 sec

Object Info Session





Filter objects

- attrition
- capstone
- harsh
- healthcare
  - Tables
  - appointment\_sheet
    - Columns

```
25
26
27      #2.How many doctors are working in the hospital?
28 •   select count(doctor_id) as 'Total_Working_Doctor'
29     from doctors_sheet;
30
31
32
33
```

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

Total\_Working\_Doctor

10



## Table: appointment\_sheet

## Columns:

appointment_id	varchar(50)
patient_id	text
doctor_id	text
appointment_date	text
reason_for_visit	text
status	text
No Shows	text

Output

Action Output

#	Time	Action	Message	Duration / Fetch
5	22:36:26	alter table patient_sheet change column `patient_id` patient_id varchar(50)	50 row(s) affected Records: 50 Duplicates: 0 Warnings: 0	0.156 sec
6	22:37:33	alter table treatment_sheet change column `treatment_id` treatment_id varchar(50)	200 row(s) affected Records: 200 Duplicates: 0 Warnings: 0	0.140 sec
7	22:42:01	select count(patient_id) as Reg_Patients from appointment_sheet LIMIT 0, 10000	1 row(s) returned	0.015 sec / 0.000 sec
8	22:45:02	select distinct(patient_id) as Reg_Patients from appointment_sheet LIMIT 0, 10000	48 row(s) returned	0.000 sec / 0.000 sec
9	22:45:44	select * from doctors_sheet LIMIT 0, 10000	10 row(s) returned	0.000 sec / 0.000 sec
10	22:46:53	select count(doctor_id) as 'Total_Working_Doctor' from doctors_sheet LIMIT 0, 10000	1 row(s) returned	0.000 sec / 0.000 sec





## Navigator

## SCHEMAS

- Filter objects
- attrition
  - capstone
  - harsh
  - healthcare
    - appointment\_sheet
      - Columns
        - ◆ appointment\_id
        - ◆ patient\_id
        - ◆ doctor\_id
        - ◆ appointment\_date
        - ◆ reason\_for\_visit
        - ◆ status
        - ◆ No Shows

## Administration

## Schemas

## Information

## Attrition Health\_Care\* Capstone

```
33  #3.What is the total number of appointments?  
34 • select count(appointment_id) as Num_of_appointment  
35   from appointment_sheet;  
36  
37  
38  
39  
40  
41  
42
```

## Result Grid

## Filter Rows:

## Export:

## Wrap Cell Content:

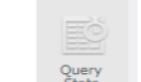
Num_of_appointment
200



## Table: appointment\_sheet

## Columns:

appointment_id	varchar(50)
patient_id	text
doctor_id	text
appointment_date	text
reason_for_visit	text
status	text
No Shows	text



## Result 5

## Output

## Action Output

#	Time	Action	Message	Duration / Fetch
6	22:37:33	alter table treatment_sheet change column 'treatment_id' treatment_id varchar(50)	200 row(s) affected Records: 200 Duplicates: 0 Warnings: 0	0.140 sec
7	22:42:01	select count(patient_id) as Reg_Patients from appointment_sheet LIMIT 0, 10000	1 row(s) returned	0.015 sec / 0.000 sec
8	22:45:02	select distinct(patient_id) as Reg_Patients from appointment_sheet LIMIT 0, 10000	48 row(s) returned	0.000 sec / 0.000 sec
9	22:45:44	select * from doctors_sheet LIMIT 0, 10000	10 row(s) returned	0.000 sec / 0.000 sec
10	22:46:53	select count(doctor_id) as 'Total_Working_Doctor' from doctors_sheet LIMIT 0, 10000	1 row(s) returned	0.000 sec / 0.000 sec
11	22:49:10	select count(appointment_id) as Num_of_appointment from appointment_sheet LIMIT 0, 10000	1 row(s) returned	0.000 sec / 0.000 sec

## Object Info

## Session



MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator: Attrition Health\_Care\* Capstone

SCHEMAS

Filter objects

attrition capstone harsh healthcare

Tables

appointment\_sheet

Columns

- appointment\_id
- patient\_id
- doctor\_id
- appointment\_date
- reason\_for\_visit
- status
- No Shows

Indexes

Administration Schemas

Information

Table: appointment\_sheet

Columns:

appointment_id	varchar(50)
patient_id	text
doctor_id	text
appointment_date	text
reason_for_visit	text
status	text
No Shows	text

Attrition

Health\_Care\*

Capstone

43

44 #4.How many appointments were completed, cancelled, or no-show?

45 • select status,count(appointment\_id) as Total\_Appointment

46 from appointment\_sheet

47 group by status

48 order by Total\_Appointment desc;

49

50

51

52

Result Grid

status	Total_Appointment
No-show	52
Scheduled	51
Cancelled	51
Completed	46

Filter Rows: Export: Wrap Cell Content:

Result Grid Form Editor Field Types Query Stats

Result 6

Output

Action Output

#	Time	Action	Message	Duration / Fetch
2	21:14:28	select * from doctors_sheet LIMIT 0, 10000	10 row(s) returned	0.016 sec / 0.000 sec
3	21:23:10	select `Full Name`,count(patient_id) as Total_Appointments_Handled from doctors_sheet left join appoint...	Error Code: 1140. In aggregated query without GROUP BY, expression #1 of SELECT list contains non... 0.016 sec	
4	21:26:14	select `Full Name`,count(patient_id) as Total_Appointments_Handled from doctors_sheet left join appoint...	10 row(s) returned	0.000 sec / 0.000 sec
5	21:26:23	select `Full Name`,count(patient_id) as Total_Appointments_Handled from doctors_sheet left join appoint...	10 row(s) returned	0.016 sec / 0.000 sec
6	21:26:54	select `Full Name`,count(patient_id) as Total_Appointments_Handled from doctors_sheet left join appoint...	1 row(s) returned	0.000 sec / 0.000 sec
7	21:28:41	select status,count(appointment_id) as Total_Appointment from appointment_sheet group by status orde...	4 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Read Only

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

healthcare

Tables

- appointment\_sheet
- billing\_sheet
- doctors\_sheet
- patient\_sheet

Columns

- patient\_id
- gender
- address
- registration\_date
- insurance\_provider
- Full Name
- Age

Indexes

Administration Schemas

Information

Column: appointment\_id

Collation: utf8mb4\_0900\_ai\_ci

Definition: appointment\_id varchar(50)

Attrition Health\_Care Capstone

43  
44     #5.What is the gender distribution of patients?  
45 •    select gender,count(patient\_id) as Total\_Patient  
46       from patient\_sheet  
47       group by gender  
48       order by Total\_Patient desc;  
49  
50  
51  
52

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

gender	Total_Patient
Male	31
Female	19

Result 11 x Read Only

Action Output

#	Time	Action	Message	Duration / Fetch
12	22:54:04	select status,count(appointment_id) as Total_Appointment from appointment_sheet group by status order by Total_Appointment desc;	4 row(s) returned	0.000 sec / 0.000 sec
13	23:03:04	select gender,count(patient_id) as 'Total_Patient' from patient_sheet group by gender order by 'Total_Patient' desc;	2 row(s) returned	0.000 sec / 0.000 sec
14	23:03:26	select gender,count(patient_id) as 'Total_Patient' from patient_sheet group by gender order by 'Total_Patient' desc;	2 row(s) returned	0.000 sec / 0.000 sec
15	23:03:47	select gender,count(patient_id) as 'Total_Patient' from patient_sheet group by gender order by 'Total_Patient' desc;	2 row(s) returned	0.000 sec / 0.000 sec
16	23:06:51	select count(patient_id) as Reg_Patients from patient_sheet LIMIT 0, 10000	1 row(s) returned	0.000 sec / 0.000 sec
17	23:09:47	select gender,count(patient_id) as Total_Patient from patient_sheet group by gender order by Total_Patient desc;	2 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

MySQL Workbench

Local instance MySQL80 ×

File Edit View Query Database Server Tools Scripting Help

Navigator Health\_Care\* Capstone

SCHEMAS

Filter objects

healthcare

Tables

- appointment\_sheet
- billing\_sheet
- doctors\_sheet
- patient\_sheet

Columns

- patient\_id
- gender
- address
- registration\_date
- insurance\_provider
- Full Name
- Age

Indexes

Administration Schemas

Information

Column: appointment\_id

Collation: utf8mb4\_0900\_ai\_ci

Definition:

```
appointment_id  varchar(50)
```

Attrition

#6.What is the average patient age?

```
53
54  #6.What is the average patient age?
55 •  select avg(age) as Avg_Age
56  from patient_sheet;
57
58
59
60
61
```

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

Avg_Age
44.6200

Result 12 ×

Action Output

#	Time	Action	Message	Duration / Fetch
13	23:03:04	select gender.count(patient_id) as 'Total_Patient' from patient_sheet group by gender order by 'Total_P...'	2 row(s) returned	0.000 sec / 0.000 sec
14	23:03:26	select gender.count(patient_id) as 'Total_Patient' from patient_sheet group by gender order by 'Total_P...'	2 row(s) returned	0.000 sec / 0.000 sec
15	23:03:47	select gender.count(patient_id) as 'Total_Patient' from patient_sheet group by gender order by 'Total_P...'	2 row(s) returned	0.000 sec / 0.000 sec
16	23:06:51	select count(patient_id) as Reg_Patients from patient_sheet LIMIT 0, 10000	1 row(s) returned	0.000 sec / 0.000 sec
17	23:09:47	select gender.count(patient_id) as Total_Patient from patient_sheet group by gender order by Total_Pati...	2 row(s) returned	0.000 sec / 0.000 sec
18	23:11:31	select avg(age) as Avg_Age from patient_sheet LIMIT 0, 10000	1 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Result Grid Form Editor Field Types Query Stats

The screenshot shows the MySQL Workbench interface. The top menu bar includes File, Edit, View, Query, Database, Server, Tools, Scripting, and Help. The left sidebar displays the Navigator, SCHEMAS, and Administration tabs. Under SCHEMAS, the 'healthcare' database is selected, showing its Tables (appointment\_sheet, billing\_sheet), Columns (bill\_id, patient\_id, treatment\_id, bill\_date, amount, payment\_method, payment\_status, Payment), and Indexes/Foreign Keys.

The main workspace contains a query editor titled 'Attrition' with the following SQL code:

```
55
56  #7.Which payment methods are most commonly used?
57  select payment_method,count(bill_id) as total_Count
58  from billing_sheet
59  group by payment_method
60  order by total_Count desc;
```

The result grid shows the output of the query:

payment_method	total_Count
Credit Card	75
Insurance	64
Cash	61

On the right side, there are several tabs: Result Grid, Form Editor, Field Types, and Query Stats. The 'Result Grid' tab is currently active. Below the result grid, the 'Result 14' tab is open, showing the history of actions taken in the session. The 'Action Output' section lists the following queries and their results:

#	Time	Action	Message	Duration / Fetch
15	23:03:47	select gender.count(patient_id) as 'Total_Patient' from patient_sheet group by gender order by 'Total_Pati...' 2 row(s) returned		0.000 sec / 0.000 sec
16	23:06:51	select count(patient_id) as Reg_Patients from patient_sheet LIMIT 0, 10000	1 row(s) returned	0.000 sec / 0.000 sec
17	23:09:47	select gender.count(patient_id) as Total_Patient from patient_sheet group by gender order by 'Total_Pati...' 2 row(s) returned		0.000 sec / 0.000 sec
18	23:11:31	select avg(age) as Avg_Age from patient_sheet LIMIT 0, 10000	1 row(s) returned	0.000 sec / 0.000 sec
19	23:12:31	select status,count(appointment_id) as Total_Appointment from appointment_sheet group by status order by 'Total_App...' 4 row(s) returned		0.000 sec / 0.000 sec
20	23:15:48	select payment_method,count(bill_id) as total_Count from billing_sheet group by payment_method order by 'total_C...' 3 row(s) returned		0.000 sec / 0.000 sec

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

healthcare

Tables

- appointment\_sheet
- billing\_sheet

Columns

- bill\_id
- patient\_id
- treatment\_id
- bill\_date
- amount
- payment\_method
- payment\_status
- Payment

Indexes

Foreign Keys

Administration Schemas

Information

Column: appointment\_id

Collation: utf8mb4\_0900\_ai\_ci

Definition: appointment\_id varchar(50)

Attrition Health\_Care\* Capstone

62

63 #8.What is the total revenue generated (Paid bills only)?

64 • select payment\_status,sum(amount)

65 from billing\_sheet

66 where payment\_status='paid';

67

68

69

70

71

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

payment_status	sum(amount)
Paid	173423

Result Grid Result Grid

Form Editor Form Editor

Field Types Field Types

Query Stats Query Stats

Output

Action Output

#	Time	Action	Message	Duration / Fetch
17	23:09:47	select gender,count(patient_id) as Total_Patient from patient_sheet group by gender order by Total_Pati...	2 row(s) returned	0.000 sec / 0.000 sec
18	23:11:31	select avg(age) as Avg_Age from patient_sheet LIMIT 0, 10000	1 row(s) returned	0.000 sec / 0.000 sec
19	23:12:31	select status,count(appointment_id) as Total_Appointment from appointment_sheet group by status orde...	4 row(s) returned	0.000 sec / 0.000 sec
20	23:15:48	select payment_method,count(bill_id) as total_Count from billing_sheet group by payment_method order ...	3 row(s) returned	0.000 sec / 0.000 sec
21	23:18:39	select round(avg(age),0)as Avg_Age from patient_sheet LIMIT 0, 10000	1 row(s) returned	0.016 sec / 0.000 sec
22	23:24:09	select payment_status,sum(amount) from billing_sheet where payment_status='paid' LIMIT 0, 10000	1 row(s) returned	0.015 sec / 0.000 sec

Object Info Session

## MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help



Navigator

## SCHEMAS

Filter objects

## healthcare

## Tables

- appointment\_sheet
- billing\_sheet
  - Columns
    - bill\_id
    - patient\_id
    - treatment\_id
    - bill\_date
    - amount
    - payment\_method
    - payment\_status
  - Payment

## Indexes

## Foreign Keys

Administration

Schemas

Information

Column: appointment\_id

Collation: utf8mb4\_0900\_ai\_ci

Definition:  
appointment\_id varchar(50)

Attrition Health\_Care Capstone

```
68
69      #9. How many bills are pending vs completed vs failed?
70 •   select payment_status,count(bill_id) total_count
71     from billing_sheet
72     group by payment_status
73     order by total_count desc;
74
75
76
77
```

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

payment_status	total_count
Pending	69
Failed	67
Paid	64



Result 18

Read Only

Output

Action Output

#	Time	Action	Message	Duration / Fetch
✓ 20	23:15:48	select payment_method,count(bill_id) as total_Count from billing_sheet group by payment_method order ...	3 row(s) returned	0.000 sec / 0.000 sec
✓ 21	23:18:39	select round(avg(age),0)as Avg_Age from patient_sheet LIMIT 0, 10000	1 row(s) returned	0.016 sec / 0.000 sec
✓ 22	23:24:09	select payment_status,sum(amount) from billing_sheet where payment_status='paid' LIMIT 0, 10000	1 row(s) returned	0.015 sec / 0.000 sec
✓ 23	23:29:54	select payment.count(bill_id) total_count from billing_sheet group by payment order by total_count desc ...	2 row(s) returned	0.000 sec / 0.000 sec
✗ 24	23:30:13	select payment_status.count(bill_id)total_count from billing_sheet group by payment order by total_coun...	Error Code: 1055. Expression #1 of SELECT list is not in GROUP BY clause and contains nonaggregate...	0.015 sec
✓ 25	23:30:24	select payment_status.count(bill_id)total_count from billing_sheet group by payment_status order by tot...	3 row(s) returned	0.000 sec / 0.000 sec

Object Info Session



MySQL Workbench

Local instance MySQL80 ×

File Edit View Query Database Server Tools Scripting Help

Navigator Attrition Health\_Care\* Capstone

SCHEMAS Filter objects

healthcare

Tables

- appointment\_sheet
- billing\_sheet
- doctors\_sheet
- patient\_sheet
- treatment\_sheet

Columns

- treatment\_id
- appointment\_id
- treatment\_type
- description
- cost
- treatment\_date

Indexes

Administration Schemas

Information

Column: appointment\_id

Collation: utf8mb4\_0900\_ai\_ci

Definition: appointment\_id varchar(50)

75  
76     #10.What is the average cost of treatments?  
77 •    select treatment\_type,avg(cost) as Total\_Cost  
78       from treatment\_sheet  
79       group by treatment\_type  
80       order by Total\_cost desc;  
81  
82  
83  
84

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

	treatment_type	Total_Cost
▶	MRI	3224.9444
▶	Physiotherapy	2761.6111
▶	X-Ray	2698.8293
▶	Chemotherapy	2629.6735
▶	ECG	2532.1842

Result 20 × Read Only

Action Output

#	Time	Action	Message	Duration / Fetch
✓	22 23:24:09	select payment_status,sum(amount) from billing_sheet where payment_status='paid' LIMIT 0, 10000	1 row(s) returned	0.015 sec / 0.000 sec
✓	23 23:29:54	select payment.count(bill_id) total_count from billing_sheet group by payment order by total_count desc ...	2 row(s) returned	0.000 sec / 0.000 sec
✗	24 23:30:13	select payment_status,count(bill_id) total_count from billing_sheet group by payment order by total_coun...	Error Code: 1055. Expression #1 of SELECT list is not in GROUP BY clause and contains nonaggregate...	0.015 sec
✓	25 23:30:24	select payment_status,count(bill_id) total_count from billing_sheet group by payment_status order by tot...	3 row(s) returned	0.000 sec / 0.000 sec
✓	26 23:33:24	select treatment_type,sum(cost) as Total_Cost from treatment_sheet group by treatment_type order by T...	5 row(s) returned	0.015 sec / 0.000 sec
✓	27 23:34:01	select treatment_type,avg(cost) as Total_Cost from treatment_sheet group by treatment_type order by T...	5 row(s) returned	0.016 sec / 0.000 sec

Object Info Session

## MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help



Attrition Health\_Care\* Capstone

## Schemas

Filter objects

- attrition
- capstone
- harsh
- healthcare
  - Tables
    - appointment\_sheet
  - Columns
    - ◆ appointment\_id
    - ◆ patient\_id
    - ◆ doctor\_id
    - ◆ appointment\_date
    - ◆ reason\_for\_visit
    - ◆ status
    - ◆ No Shows

Indexes

Administration Schemas

Information

## Table: appointment\_sheet

## Columns:

appointment_id	varchar(50)
patient_id	text
doctor_id	text
appointment_date	text
reason_for_visit	text
status	text
No Shows	text

```

82  #11.Which doctor handled the most appointments?
83 • select `full Name`,count(patient_id) as Total_Appointments_Handled
84   from doctors_sheet
85   left join appointment_sheet
86   on doctors_sheet.doctor_id=appointment_sheet.doctor_id
87   group by `full Name`
88   order by Total_Appointments_Handled desc
89   limit 1;
90
91

```

full Name	Total_Appointments_Handled
Sarah Taylor	29



MySQL Workbench

Local instance MySQL80 ×

File Edit View Query Database Server Tools Scripting Help

Navigator

Attrition Health\_Care\* Capstone

SCHEMAS

Filter objects

attrition capstone harsh healthcare

Tables

appointment\_sheet billing\_sheet doctors\_sheet patient\_sheet

Columns

patient\_id gender address registration\_date insurance\_provider

Administration Schemas

Information

Table: appointment\_sheet

Columns:

appointment_id	varchar(50)
patient_id	text
doctor_id	text
appointment_date	text
reason_for_visit	text
status	text
No Shows	text

Result Grid | Filter Rows: Export: Wrap Cell Content: Result Grid Form Editor Field Types Query Stats

full Name Total\_Appointments\_Handled

Sarah Taylor	29
David Taylor	25
Alex Davis	24
Jane Smith	22
Jane Davis	21
Linda Wilson	19
Sarah Smith	17
Linda Brown	16
David Jones	14
Robert Davis	13

Result 9 × Read Only

Action Output

#	Time	Action	Message	Duration / Fetch
6	21:26:54	select `full Name`,count(patient_id) as Total_Appointments_Handled from doctors_sheet left join appointment_sheet on doctors_sheet.doctor_id=appointment_sheet.doctor_id group by `full Name` order by Total_Appointments_Handled desc;	1 row(s) returned	0.000 sec / 0.000 sec
7	21:28:41	select status,count(appointment_id) as Total_Appointment from appointment_sheet group by status order by T...	4 row(s) returned	0.000 sec / 0.000 sec
8	21:29:51	select treatment_type,avg(cost) as Total_Cost from treatment_sheet group by treatment_type order by T...	5 row(s) returned	0.016 sec / 0.000 sec
9	21:30:05	select `full Name`,count(patient_id) as Total_Appointments_Handled from doctors_sheet left join appointment_sheet on doctors_sheet.doctor_id=appointment_sheet.doctor_id group by `full Name` order by Total_Appointments_Handled desc;	1 row(s) returned	0.000 sec / 0.000 sec
10	21:42:49	SELECT `Full Name` AS Doctor_Name,COUNT(DISTINCT a.patient_id) AS Total_Patients_Visited FROM appointment_sheet a LEFT JOIN doctors_sheet d ON a.doctor_id=d.id WHERE a.appointment_date >='2023-01-01' AND a.appointment_date <='2023-01-31' AND d.specialty='Cardiologist' GROUP BY Doctor_Name	Error Code: 1054. Unknown column 'a.patient_id' in field list'	0.000 sec
11	21:47:42	select `full Name`,count(patient_id) as Total_Appointments_Handled from doctors_sheet left join appointment_sheet on doctors_sheet.doctor_id=appointment_sheet.doctor_id group by `full Name` order by Total_Appointments_Handled desc;	10 row(s) returned	0.016 sec / 0.000 sec

Object Info Session

MySQL Workbench

Local instance MySQL80 ×

File Edit View Query Database Server Tools Scripting Help

Navigator

Attrition Health\_Care\* Capstone

Limit to 10000 rows

99  
100 #13.What is the monthly trend of appointments?  
101 • SELECT  
102 MONTH(STR\_TO\_DATE(appointment\_date, '%Y-%m-%d')) AS month,  
103 COUNT(\*) AS total\_appointments  
104 FROM appointment\_sheet  
105 WHERE appointment\_date IS NOT NULL  
106 GROUP BY month  
107 ORDER BY month;

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

month	total_appointments
1	20
2	14
3	19
4	25
5	19
6	18
7	16
8	15
9	11
10	14
11	17
12	12

Table: appointment\_sheet

Columns:

appointment_id	varchar(50)
patient_id	text
doctor_id	text
appointment_date	text
reason_for_visit	text
status	text
No Shows	text

Result 18 × Read Only

Action Output

#	Time	Action	Message	Duration / Fetch
17	22:01:15	SELECT DATE_FORMAT(appointment_date, "%Y-%m") AS Month, COUNT(appointment_id) AS Total...	1 row(s) returned	0.000 sec / 0.000 sec
18	22:05:34	SELECT DATE_FORMAT(STR_TO_DATE(appointment_date, "%d/%m/%Y"), "%Y-%m") AS Month, ...	158 row(s) returned	0.016 sec / 0.000 sec
19	22:07:32	MONTH(STR_TO_DATE(appointment_date, "%d/%m/%Y")) AS month, COUNT(*) AS total_appointment...	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your My...	0.015 sec
20	22:09:29	SELECT MONTH(STR_TO_DATE(appointment_date, "%Y-%m-%d")) AS month, COUNT(*) AS total...	Error Code: 1146. Table 'healthcare.appointments_sheet' doesn't exist	0.047 sec
21	22:09:39	SELECT MONTH(STR_TO_DATE(appointment_date, "%Y-%m-%d")) AS month, COUNT(*) AS total...	12 row(s) returned	0.000 sec / 0.000 sec
22	22:10:00	SELECT MONTH(STR_TO_DATE(appointment_date, "%Y-%m-%d")) AS month, COUNT(*) AS total_ap...	12 row(s) returned	0.000 sec / 0.000 sec

Object Info Session



## Navigator

## SCHEMAS

Filter objects

## healthcare

## Tables

- appointment\_sheet
- billing\_sheet
- doctors\_sheet
- patient\_sheet
- treatment\_sheet

## Columns

- treatment\_id
- appointment\_id
- treatment\_type
- description
- cost
- treatment\_date

## Indexes

## Administration Schemas

## Information

## Table: appointment\_sheet

## Columns:

appointment_id	varchar(50)
patient_id	text
doctor_id	text
appointment_date	text
reason_for_visit	text
status	text
No Shows	text

## Attrition Health\_Care\* Capstone

```
109
110      #14.What is the average treatment cost by treatment type?
111 •  select treatment_type,round(avg(cost),2) as avg_cost
112     from treatment_sheet
113    group by treatment_type
114   order by avg_cost desc;
115
116
117
118
```

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

	treatment_type	avg_cost
▶	MRI	3224.94
	Physiotherapy	2761.61
	X-Ray	2698.83
	Chemotherapy	2629.67
	ECG	2532.18



## Result 22 ×

Read Only

## Output

## Action Output

#	Time	Action	Message	Duration / Fetch
✓ 21	22:09:39	SELECT MONTH(STR_TO_DATE(appointment_date, "%Y-%m-%d")) AS month, COUNT(*) AS total_ap...	12 row(s) returned	0.000 sec / 0.000 sec
✓ 22	22:10:00	SELECT MONTH(STR_TO_DATE(appointment_date, "%Y-%m-%d")) AS month, COUNT(*) AS total_ap...	12 row(s) returned	0.000 sec / 0.000 sec
✓ 23	22:10:36	SELECT MONTH(STR_TO_DATE(appointment_date, "%Y-%m-%d")) AS month, COUNT(*) AS total_ap...	12 row(s) returned	0.000 sec / 0.000 sec
✓ 24	22:15:02	select treatment_type,avg(cost) as avg_cost from treatment_sheet group by treatment_type order by av...	5 row(s) returned	0.016 sec / 0.000 sec
✓ 25	22:15:09	select treatment_type,avg(cost) as avg_cost from treatment_sheet group by treatment_type order by av...	5 row(s) returned	0.000 sec / 0.000 sec
✓ 26	22:15:26	select treatment_type,round(avg(cost),2) as avg_cost from treatment_sheet group by treatment_type ord...	5 row(s) returned	0.016 sec / 0.000 sec



MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

healthcare

Tables

- appointment\_sheet
- billing\_sheet
- doctors\_sheet
- Columns

  - doctor\_id
  - specialization
  - years\_experience
  - hospital\_branch
  - Full Name

- Indexes
- Foreign Keys
- Triggers
- patient\_sheet

Administration Schemas

Information

Attrition Health\_Care Capstone

116  
117 #15.Which hospital branch has the most doctors?  
118 • select hospital\_branch,count(doctor\_id) as total\_doctor  
119 from doctors\_sheet  
120 group by hospital\_branch  
121 order by Total\_Doctor desc;  
122  
123  
124  
125

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

hospital_branch	total_doctor
Central Hospital	4
Westside Clinic	3
Eastside Clinic	3

Result Grid Form Editor Field Types Query Stats

Table: treatment\_sheet

Columns:

- treatment\_id varchar(50)
- appointment\_id text
- treatment\_type text
- description text
- cost int
- treatment\_date text

Result 24 x Read Only

Action Output

#	Time	Action	Message	Duration / Fetch
23	22:10:36	SELECT MONTH(STR_TO_DATE(appointment_date, "%Y-%m-%d")) AS month, COUNT(*) AS total_ap...	12 row(s) returned	0.000 sec / 0.000 sec
24	22:15:02	select treatment_type,avg(cost) as avg_cost from treatment_sheet group by treatment_type order by av...	5 row(s) returned	0.016 sec / 0.000 sec
25	22:15:09	select treatment_type,avg(cost) as avg_cost from treatment_sheet group by treatment_type order by av...	5 row(s) returned	0.000 sec / 0.000 sec
26	22:15:26	select treatment_type,round(avg(cost),2) as avg_cost from treatment_sheet group by treatment_type ord...	5 row(s) returned	0.016 sec / 0.000 sec
27	22:19:04	select hospital_branch,count(doctor_id) as total_doctor from doctors_sheet group by hospital_branch or...	3 row(s) returned	0.016 sec / 0.000 sec
28	22:19:12	select hospital_branch,count(doctor_id) as total_doctor from doctors_sheet group by hospital_branch or...	3 row(s) returned	0.000 sec / 0.000 sec

Object Info Session



## Navigator

## SCHEMAS

Filter objects
healthcare
Tables
appointment_sheet
billing_sheet
doctors_sheet
Columns
doctor_id
specialization
years_experience
hospital_branch
Full Name
Indexes
Foreign Keys
Triggers
patient_sheet

## Administration

## Schemas

## Information

## Attrition Health\_Care\* Capstone

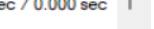
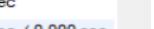
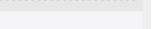
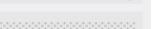
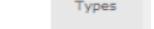
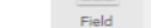
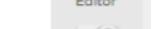
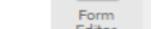
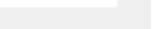
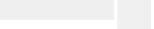
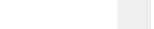
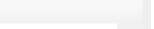
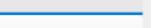
```
125  
126  #16.How many appointments did each specialization handle?  
127 • select specialization,count(appointment_id) as Total_count  
128   from appointment_sheet  
129   right join doctors_sheet  
130   on appointment_sheet.doctor_id=doctors_sheet.doctor_id  
131   group by specialization  
132   order by Total_Count desc;  
133
```

specialization	Total_count
Pediatrics	98
Dermatology	70
Oncology	32

## Table: treatment\_sheet

## Columns:

treatment_id	varchar(50)
appointment_id	text
treatment_type	text
description	text
cost	int
treatment_date	text



## Result 26 ×

## Output

## Action Output

#	Time	Action	Message	Duration / Fetch
✓	26 22:15:26	select treatment_type,round(avg(cost),2) as avg_cost from treatment_sheet group by treatment_type ord...	5 row(s) returned	0.016 sec / 0.000 sec
✓	27 22:19:04	select hospital_branch,count(doctor_id) as total_doctor from doctors_sheet group by hospital_branch or...	3 row(s) returned	0.016 sec / 0.000 sec
✓	28 22:19:12	select hospital_branch,count(doctor_id) as total_doctor from doctors_sheet group by hospital_branch or...	3 row(s) returned	0.000 sec / 0.000 sec
✗	29 22:24:01	select specialization,count(appointment_id) as Total_count from appointment_sheet right join doctors_s...	Error Code: 1054. Unknown column 'doctors_sheet.appointment_id' in 'on clause'	0.000 sec
✓	30 22:24:36	select specialization,count(appointment_id) as Total_count from appointment_sheet right join doctors_s...	3 row(s) returned	0.016 sec / 0.000 sec
✓	31 22:25:06	select specialization,count(appointment_id) as Total_count from appointment_sheet right join doctors_s...	3 row(s) returned	0.000 sec / 0.000 sec





## Navigator

## SCHEMAS

Filter objects

## healthcare

## Tables

- appointment\_sheet
- billing\_sheet
- doctors\_sheet
- patient\_sheet
- treatment\_sheet

## Columns

- treatment\_id
- appointment\_id
- treatment\_type
- description
- cost
- treatment\_date

## Indexes

## Administration Schemas

## Information

## Table: treatment\_sheet

## Columns:

- treatment\_id varchar(50)
- appointment\_id text
- treatment\_type text
- description text
- cost int
- treatment\_date text

## Attrition Health\_Care\* Capstone

```
134
135      #17.Which treatment type was performed the most?
136 •   select treatment_type,count(treatment_id) as total_Count
137     from treatment_sheet
138     group by treatment_type
139     order by total_Count desc;
140
141
142
143
```

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

	treatment_type	total_Count
▶	Chemotherapy	49
	X-Ray	41
	ECG	38
	MRI	36
	Physiotherapy	36



Read Only

## Result 28

## Output

## Action Output

#	Time	Action	Message	Duration / Fetch
✓	28 22:19:12	select hospital_branch,count(doctor_id) as total_doctor from doctors_sheet group by hospital_branch or...	3 row(s) returned	0.000 sec / 0.000 sec
✗	29 22:24:01	select specialization,count(appointment_id) as Total_count from appointment_sheet right join doctors_s...	Error Code: 1054. Unknown column 'doctors_sheet.appointment_id' in 'on clause'	0.000 sec
✓	30 22:24:36	select specialization,count(appointment_id) as Total_count from appointment_sheet right join doctors_s...	3 row(s) returned	0.016 sec / 0.000 sec
✓	31 22:25:06	select specialization,count(appointment_id) as Total_count from appointment_sheet right join doctors_s...	3 row(s) returned	0.000 sec / 0.000 sec
✓	32 22:33:24	select treatment_type,count(treatment_id) as total_Count from treatment_sheet group by treatment_type ...	5 row(s) returned	0.000 sec / 0.000 sec
✓	33 22:33:34	select treatment_type,count(treatment_id) as total_Count from treatment_sheet group by treatment_type ...	5 row(s) returned	0.000 sec / 0.000 sec





## Navigator

## SCHEMAS

Filter objects
appointment_sheet
billing_sheet
doctors_sheet
patient_sheet
Columns
patient_id
gender
address
registration_date
insurance_provider
Full Name
Age
Indexes
Foreign Keys
Triggers

## Administration

## Schemas

## Information

## Table: appointment\_sheet

## Columns:

appointment_id	varchar(50)
patient_id	text
doctor_id	text
appointment_date	text
reason_for_visit	text
status	text
No Shows	text

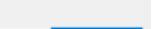
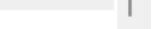
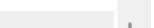
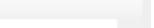
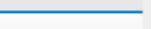
## Attrition

## Health\_Care\*

```
142  #18.How many patients visited multiple Times.
143 • select `Full Name`,count(patient_id) as total_Visit
144   from patient_sheet
145   group by `Full Name`
146   order by total_visit desc
147   limit 10;
148
149
150
151
```

## Result Grid

Full Name	total_Visit
Michael Taylor	3
Michael Wilson	3
Jane Moore	2
Laura Wilson	2
Laura Davis	2
David Wilson	2
Alex Moore	2
David Smith	2
Robert Williams	2
Michael Johnson	1



## Result 31 x

## Output

## Action Output

#	Time	Action	Message	Duration / Fetch
32	22:33:24	select treatment_type,count(treatment_id) as total_Count from treatment_sheet group by treatment_type ...	5 row(s) returned	0.000 sec / 0.000 sec
33	22:33:34	select treatment_type,count(treatment_id) as total_Count from treatment_sheet group by treatment_type ...	5 row(s) returned	0.000 sec / 0.000 sec
34	22:47:55	select 'Full Name',count(patient_id) as total_Visit from patient_sheet where total_visit>1 LIMIT 0, 10000	Error Code: 1054. Unknown column 'total_visit' in 'where clause'	0.016 sec
35	22:48:57	select 'Full Name',count(patient_id) as total_Visit from patient_sheet group by 'Full Name' order by total_...	39 row(s) returned	0.016 sec / 0.000 sec
36	22:49:10	select 'Full Name',count(patient_id) as total_Visit from patient_sheet group by 'Full Name' order by total_...	10 row(s) returned	0.000 sec / 0.000 sec
37	22:49:21	select 'Full Name',count(patient_id) as total_Visit from patient_sheet group by 'Full Name' order by total_...	10 row(s) returned	0.000 sec / 0.000 sec

## Object Info

## Session





## Navigator

## SCHEMAS

Filter objects

- attrition
- capstone
- harsh
- **healthcare**
  - Tables
    - appointment\_sheet
    - billing\_sheet
    - doctors\_sheet
    - patient\_sheet
    - treatment\_sheet
  - Views
  - Stored Procedures
  - Functions
- sys
- world

## Administration Schemas

## Information

## Attrition Health\_Care\* Capstone

```
151  
152      #19.Which branch has the highest number of patients?  
153 •  select hospital_branch,count(patient_id) as Total_Patients  
154     from appointment_sheet  
155     left join doctors_sheet  
156     on appointment_sheet.doctor_id=doctors_sheet.doctor_id  
157     group by hospital_branch  
158     order by Total_Patients desc;  
159  
160
```

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

	hospital_branch	Total_Patients
▶	Central Hospital	84
▶	Eastside Clinic	62
▶	Westside Clinic	54

## Table: doctors\_sheet

## Columns:

doctor_id	varchar(50)
specialization	text
years_experience	int
hospital_branch	text
Full Name	text



## Result 35 x

Read Only

## Output

## Action Output

#	Time	Action	Message	Duration / Fetch
✖ 1	22:57:29	select hospital_branch,count(patient_id) as Total_Patients from appointment_sheet left join doctors_sheet... Error Code: 1140. In aggregated query without GROUP BY, expression #1 of SELECT list contains nonag...	0.000 sec	
✓ 2	22:57:54	select hospital_branch,count(patient_id) as Total_Patients from appointment_sheet left join doctors_sheet... 3 row(s) returned	0.016 sec / 0.000 sec	
✓ 3	22:58:04	select hospital_branch,count(patient_id) as Total_Patients from appointment_sheet left join doctors_sheet... 3 row(s) returned	0.000 sec / 0.000 sec	
✓ 4	22:58:19	select hospital_branch,count(patient_id) as Total_Patients from appointment_sheet left join doctors_sheet... 3 row(s) returned	0.000 sec / 0.000 sec	





## Navigator

## SCHEMAS

Filter objects

- ▶ attrition
- ▶ capstone
- ▶ harsh
- ▶ **healthcare**
  - ▶ Tables
    - ▶ appointment\_sheet
    - ▶ billing\_sheet
    - ▶ doctors\_sheet
    - ▶ patient\_sheet
    - ▶ treatment\_sheet
  - ▶ Views
  - ▶ Stored Procedures
    - ▶ Functions
- ▶ sys
- ▶ world

## Administration Schemas

## Information

## Attrition Health\_Care\* Capstone

```
158
159      #20.What is the revenue generated by each payment method?
160 •   select payment_method,sum(amount) revenue_generated
161     from billing_sheet
162     group by payment_method
163     order by revenue_generated desc;
164
165
166
167
```

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

payment_method	revenue_generated
Credit Card	201381
Insurance	182156
Cash	167708

## Table: doctors\_sheet

Columns:

doctor_id	varchar(50)
specialization	text
years_experience	int
hospital_branch	text
Full Name	text

## Result 38 ×

Read Only

## Output

## Action Output

#	Time	Action	Message	Duration / Fetch
✓	2 22:57:54	select hospital_branch.count(patient_id) as Total_Patients from appointment_sheet left join doctors_sheet on appointment_sheet.doctor_id = doctors_sheet.id;	3 row(s) returned	0.016 sec / 0.000 sec
✓	3 22:58:04	select hospital_branch.count(patient_id) as Total_Patients from appointment_sheet left join doctors_sheet on appointment_sheet.doctor_id = doctors_sheet.id;	3 row(s) returned	0.000 sec / 0.000 sec
✓	4 22:58:19	select hospital_branch.count(patient_id) as Total_Patients from appointment_sheet left join doctors_sheet on appointment_sheet.doctor_id = doctors_sheet.id;	3 row(s) returned	0.000 sec / 0.000 sec
✓	5 23:03:19	select payment_method,sum(amount) revenue_generated from billing_sheet group by payment_method;	3 row(s) returned	0.000 sec / 0.000 sec
✓	6 23:03:32	select payment_method,sum(amount) revenue_generated from billing_sheet group by payment_method;	3 row(s) returned	0.000 sec / 0.000 sec
✓	7 23:03:38	select payment_method,sum(amount) revenue_generated from billing_sheet group by payment_method;	3 row(s) returned	0.000 sec / 0.000 sec



## Navigator

## SCHEMAS

Filter objects

## healthcare

- Tables
  - appointment\_sheet
  - billing\_sheet
  - doctors\_sheet
  - patient\_sheet
    - Columns
      - patient\_id
      - gender
      - address
      - registration\_date
      - insurance\_provider
      - Full Name
      - Age

## Indexes

## Administration

## Schemas

## Information

## Table: doctors\_sheet

## Columns:

doctor_id	varchar(50)
specialization	text
years_experience	int
hospital_branch	text
Full Name	text

## Attrition Health\_Care Capstone

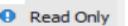
```
165
166  #21.Who are the top 5 patients by total spending?
167 •  select `full Name`,sum(amount) as Total_Amount
168  from patient_sheet
169  left join billing_sheet
170  on patient_sheet.patient_id=billing_sheet.patient_id
171  group by `full Name`
172  order by Total_Amount desc
173  limit 5;
174
```

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

full Name	Total_Amount
Michael Taylor	48928
Michael Wilson	43193
Laura Davis	40609
David Wilson	37018
David Moore	23555



## Result 40



## Output

## Action Output

#	Time	Action	Message	Duration / Fetch
4	22:58:19	select hospital_branch.count(patient_id) as Total_Patients from appointment_sheet left join doctors_sheet on appointment_sheet.doctor_id=doctors_sheet.doctor_id	3 row(s) returned	0.000 sec / 0.000 sec
5	23:03:19	select payment_method,sum(amount) revenue_generated from billing_sheet group by payment_method	3 row(s) returned	0.000 sec / 0.000 sec
6	23:03:32	select payment_method,sum(amount) revenue_generated from billing_sheet group by payment_method	3 row(s) returned	0.000 sec / 0.000 sec
7	23:03:38	select payment_method,sum(amount) revenue_generated from billing_sheet group by payment_method	3 row(s) returned	0.000 sec / 0.000 sec
8	23:14:14	select `full Name`,sum(amount) as Total_Amount from patient_sheet left join billing_sheet on patient_sheet.patient_id=billing_sheet.patient_id group by `full Name`	5 row(s) returned	0.000 sec / 0.000 sec
9	23:14:22	select `full Name`,sum(amount) as Total_Amount from patient_sheet left join billing_sheet on patient_sheet.patient_id=billing_sheet.patient_id group by `full Name` order by Total_Amount desc limit 5;	5 row(s) returned	0.016 sec / 0.000 sec





## Navigator

## SCHEMAS

- ▶ attrition
- ▶ capstone
- ▶ harsh
- ▶ **healthcare**
  - ▶ Tables
    - ▶ appointment\_sheet
    - ▶ billing\_sheet
    - ▶ doctors\_sheet
    - ▶ patient\_sheet
    - ▶ treatment\_sheet
  - ▶ Views
  - ▶ Stored Procedures
  - ▶ Functions
- ▶ sys
- ▶ world

## Administration Schemas

## Information

No object selected

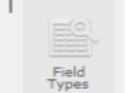
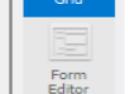
## Attrition Health\_Care\* Capstone

174  
175  
176 #22.What is the average revenue per patient?  
177 • select `Full Name`,avg(amount) as avg\_amount  
178 from patient\_sheet  
179 join billing\_sheet  
180 on patient\_sheet.patient\_id=billing\_sheet.patient\_id  
181 group by `Full Name`  
182 order by avg\_amount;  
183

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

Full Name	avg_amount
Linda Moore	868.5000
Linda Brown	1649.0000
John Taylor	1747.6667
David Davis	1818.5000
Emily Moore	1863.0000
Emily Williams	1867.6667
David Williams	1929.5000
Emily Smith	1989.6667
Sarah Miller	2081.8000
Linda Johnson	2206.1667
Jane Smith	2253.5000
David Smith	2318.0000
Laura Johnson	2327.0000
Robert Williams	2377.0000
David Wilson	2467.8667

Result 1 x



Read Only

## Output

Action Output

#	Time	Action	Message
1	22:52:05	select `Full Name`,avg(amount) as avg_amount from patient_sheet join billing_sheet on patient_sheet.patient_id=billing_sheet.patient_id group by `Full Name` order by avg_amount;	37 row(s) returned

Duration / Fetch  
0.000 sec / 0.000 sec

Tuesday, 26 August, 2025

Tue 10:52 PM (Local time)





## Navigator

## SCHEMAS

- ▶ attrition
- ▶ capstone
- ▶ harsh
- ▶ healthcare
  - ▶ Tables
    - ▶ appointment\_sheet
    - ▶ billing\_sheet
    - ▶ doctors\_sheet
    - ▶ patient\_sheet
    - ▶ treatment\_sheet
  - ▶ Views
  - ▶ Stored Procedures
  - ▶ Functions
- ▶ sys
- ▶ world

## Administration Schemas

## Information

No object selected

## Attrition Health\_Care\* Capstone

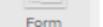
```
190  #23.Which month had the highest revenue?
191 •  SELECT
192      MONTH(STR_TO_DATE(appointment_date, '%Y-%m-%d')) AS month,
193      sum(amount) AS total_Revenue
194  FROM appointment_sheet
195  join billing_sheet
196  on appointment_sheet.patient_id=billing_sheet.patient_id
197  GROUP BY month
198  ORDER BY month desc
199  ▷ 1+1+1+
```

Full Name	avg_amount
Linda Moore	868.5000
Linda Brown	1649.0000
John Taylor	1747.6667
David Davis	1818.5000
Emily Moore	1863.0000
Emily Williams	1867.6667
David Williams	1929.5000
Emily Smith	1989.6667
Sarah Miller	2081.8000
Linda Johnson	2206.1667
Jane Smith	2253.5000
David Smith	2318.0000
Laura Johnson	2327.0000
Robert Williams	2377.0000
David Wilson	2467.8667

Result 4 x



Result Grid



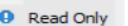
Form Editor



Field Types



Query Stats



Read Only

## Output

## Action Output

#	Time	Action	Message	Duration / Fetch
1	22:52:05	select 'Full Name',avg(amount) as avg_amount from patient_sheet join billing_sheet on patient_sheet.patient_id=billing_sheet.patient_id group by month	37 row(s) returned	0.000 sec / 0.000 sec
2	22:53:04	SELECT MONTH(STR_TO_DATE(appointment_date, "%Y-%m-%d")) AS month, sum(amount) AS total_Revenue	1 row(s) returned	0.016 sec / 0.000 sec
3	22:53:11	SELECT MONTH(STR_TO_DATE(appointment_date, "%Y-%m-%d")) AS month, sum(amount) AS total_Revenue	1 row(s) returned	0.016 sec / 0.000 sec
4	22:53:24	select 'Full Name',avg(amount) as avg_amount from patient_sheet join billing_sheet on patient_sheet.patient_id=billing_sheet.patient_id group by month	37 row(s) returned	0.000 sec / 0.000 sec



## MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help



Navigator

Attrition Health\_Care Capstone

## SCHEMAS

Filter objects

- attrition
- capstone
- harsh
- healthcare
  - Tables
    - appointment\_sheet
    - billing\_sheet
    - doctors\_sheet
    - patient\_sheet
    - treatment\_sheet
  - Views
  - Stored Procedures
  - Functions

sys

world

Administration Schemas

Information

No object selected

```
197  #24.Which treatment type generated the most revenue?  
198 • select treatment_type,sum(cost) as Total_Revenue  
199   from treatment_sheet  
200   group by treatment_type  
201   order by total_revenue desc  
202   limit 1;  
203  
204  
205  
206
```

Result Grid	
treatment_type	Total_Revenue
Chemotherapy	128854



Form Editor

Field Types

Query Stats



Read Only

Result 5

Output

Action Output

#	Time	Action	Message	Duration / Fetch
1	22:52:05	select 'Full Name',avg(amount) as avg_amount from patient_sheet join billing_sheet on patient_sheet.patient_id=billing_sheet.patient_id group by patient_sheet.patient_id;	37 row(s) returned	0.000 sec / 0.000 sec
2	22:53:04	SELECT MONTH(STR_TO_DATE(appointment_date, "%Y-%m-%d")) AS month, sum(amount) AS total_Revenue FROM treatment_sheet GROUP BY month ORDER BY month;	1 row(s) returned	0.016 sec / 0.000 sec
3	22:53:11	SELECT MONTH(STR_TO_DATE(appointment_date, "%Y-%m-%d")) AS month, sum(amount) AS total_Revenue FROM treatment_sheet GROUP BY month ORDER BY month;	1 row(s) returned	0.016 sec / 0.000 sec
4	22:53:24	select 'Full Name',avg(amount) as avg_amount from patient_sheet join billing_sheet on patient_sheet.patient_id=billing_sheet.patient_id group by patient_sheet.patient_id;	37 row(s) returned	0.000 sec / 0.000 sec
5	22:54:34	select treatment_type,sum(cost) as Total_Revenue from treatment_sheet group by treatment_type order by Total_Revenue desc limit 1;	1 row(s) returned	0.000 sec / 0.000 sec

Object Info Session





## Navigator

## SCHEMAS

Filter objects

- attrition
- capstone
- harsh
- healthcare
  - appointment\_sheet
  - billing\_sheet
  - doctors\_sheet
  - patient\_sheet
  - treatment\_sheet

## Views

## Stored Procedures

## Functions

- sys
- world

## Administration Schemas

## Information

No object selected

## Attrition Health\_Care Capstone

```
203  
204  
205      #25. Find patients who spent above the overall average patient spending.  
206 •   select `Full Name`,amount as avg_amount  
207       from patient_sheet  
208       join billing_sheet  
209       on patient_sheet.patient_id=billing_sheet.patient_id  
210       where amount>(select avg(amount) from billing_sheet);  
211  
212
```

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

Full Name	avg_amount
Alex Smith	3942
Alex Moore	4158
Emily Miller	3732
Robert Wilson	4800
Michael Taylor	3414
Jane Wilson	4541
John Brown	4672
Laura Jones	4705
Alex Taylor	4114
Alex Moore	2926
Jane Moore	3247
David Moore	3723
Michael Taylor	3565
John Taylor	2863
Emily Miller	3691

Result 6

Read Only

## Output

## Action Output

#	Time	Action	Message	Duration / Fetch
1	22:52:05	select 'Full Name',avg(amount) as avg_amount from patient_sheet join billing_sheet on patient_sheet.patient_id=billing_sheet.patient_id;	37 row(s) returned	0.000 sec / 0.000 sec
2	22:53:04	SELECT MONTH(STR_TO_DATE(appointment_date, "%Y-%m-%d")) AS month, sum(amount) AS total_Revenue	1 row(s) returned	0.016 sec / 0.000 sec
3	22:53:11	SELECT MONTH(STR_TO_DATE(appointment_date, "%Y-%m-%d")) AS month, sum(amount) AS total_Revenue	1 row(s) returned	0.016 sec / 0.000 sec
4	22:53:24	select 'Full Name',avg(amount) as avg_amount from patient_sheet join billing_sheet on patient_sheet.patient_id=billing_sheet.patient_id;	37 row(s) returned	0.000 sec / 0.000 sec
5	22:54:34	select treatment_type,sum(cost) as Total_Revenue from treatment_sheet group by treatment_type order by Total_Revenue desc;	1 row(s) returned	0.000 sec / 0.000 sec
6	22:57:58	select 'Full Name',amount as avg_amount from patient_sheet join billing_sheet on patient_sheet.patient_id=billing_sheet.patient_id;	103 row(s) returned	0.000 sec / 0.000 sec



# IMPORT THE DATA INTO POWER BI. VERIFY IF THE DATA IS PROPERLY IMPORTED

The screenshot shows the Power BI Desktop interface with the Data Model view open. The interface includes a ribbon with Home selected, various data import and management tools, and a sidebar with navigation and properties controls.

The Data Model view displays five tables:

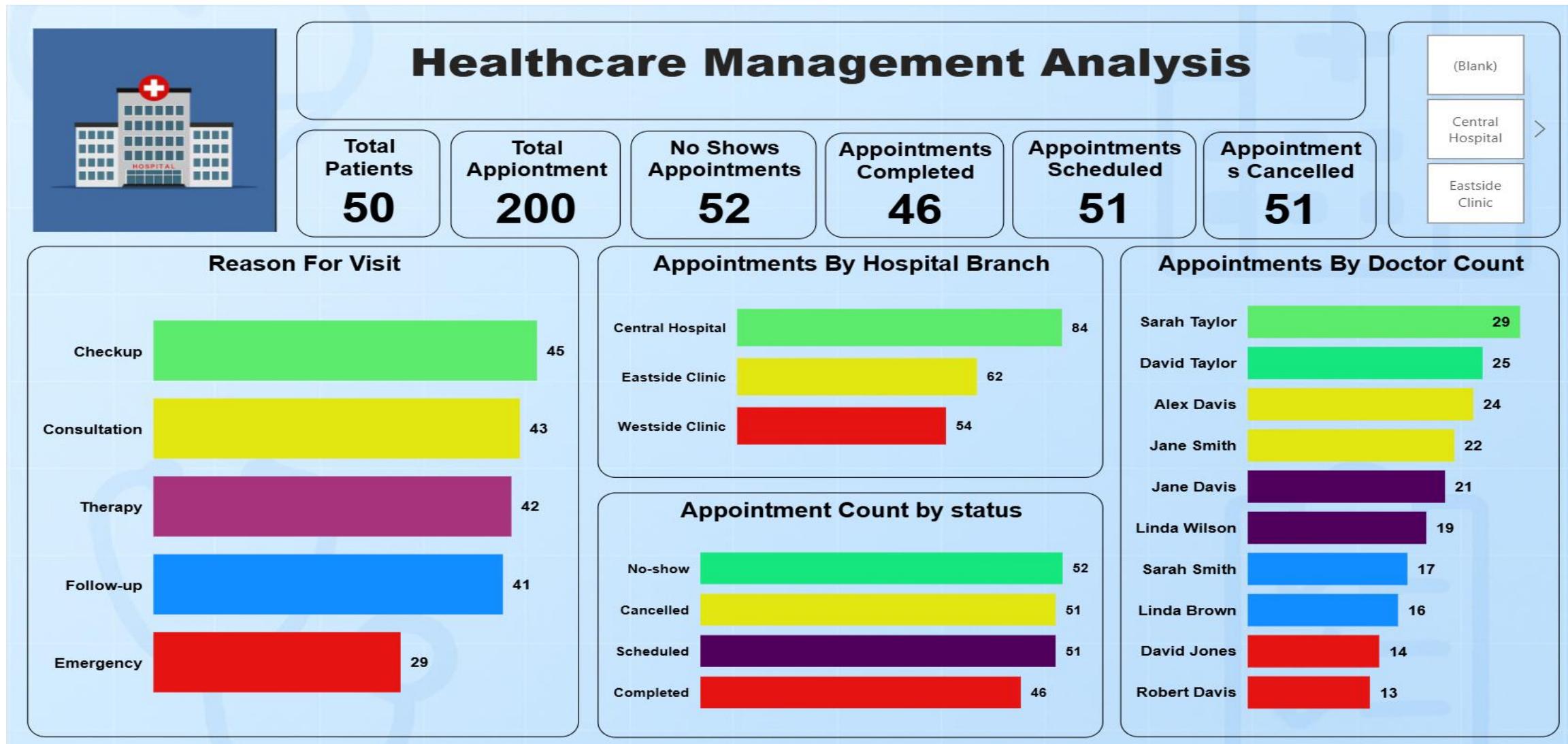
- Appointments**: Contains columns like appointment\_date, appointment\_id, doctor\_id, Doctors Name, Hopital Branch, No Shows, patient\_id, reason\_for\_visit, and static.
- Patients**: Contains columns like address, Age, appointment\_id, doctor\_id, Full Name, gender, insurance\_provider, patient\_id, and registration\_date.
- doctors**: Contains columns like doctor\_id, Full Name, hospital\_branch, specialization, and years\_experience.
- Treatments**: Contains columns like appointment\_id, cost, description, doctor\_id, patient\_id, treatment\_date, treatment\_id, and treatment\_type.
- Billing**: Contains columns like amount, bill\_date, bill\_id, doctor\_id, patient\_id, Payment, payment\_method, payment\_status, treatment\_id, and treatment\_type.

Relationships are shown between the tables:

- A relationship exists between Appointments and Patients, with Appointments being the primary key (marked with \*) and Patients being the related table.
- A relationship exists between Patients and doctors, with Patients being the primary key (marked with \*) and doctors being the related table.
- A relationship exists between treatments and Billing, with treatments being the primary key (marked with \*) and Billing being the related table.

The Properties pane on the right shows the selected table **Billing**, listing its columns: amount, bill\_date, bill\_id, doctor\_id, patient\_id, Payment, payment\_method, payment\_status, treatment\_id, and treatment\_type.

MAKE A DETAILED INTERACTIVE DASHBOARD BY USING VISUALIZATION TOOLS SUCH AS POWERBI AND ANSWER THE FOLLOWING QUESTIONS.





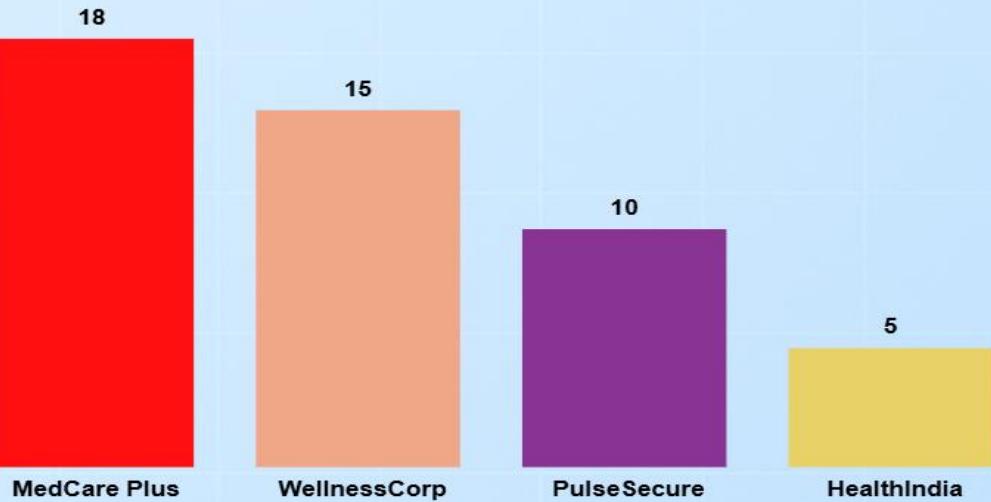
# Healthcare Management Analysis

(Blank) >

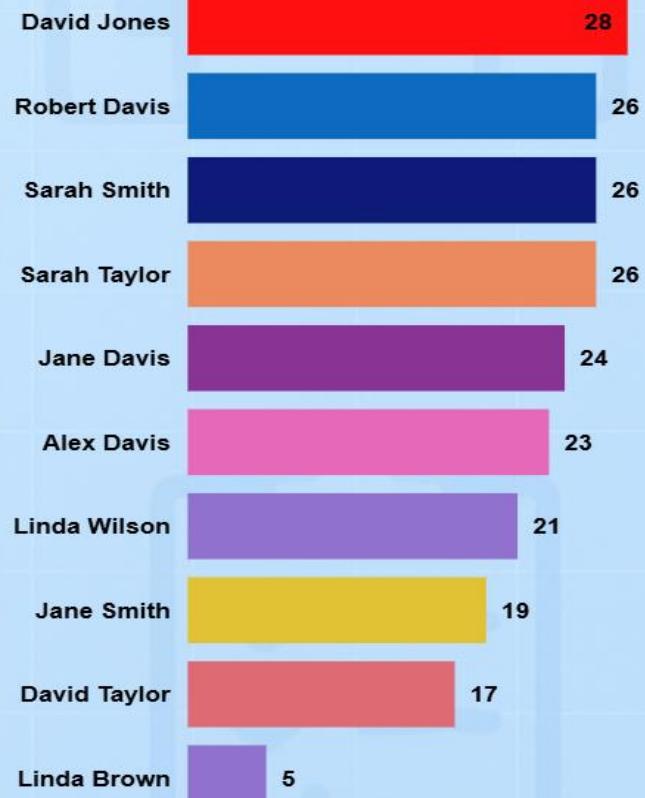
## Patient Count



## Patient Count by Insurance Provider



## Doctors Experience



## Monthly appointment Trend





# Healthcare Management Analysis

Total Revenue

**551.25K**

Amount Paid

**173.42K**

Amount Pending

**184.61K**

Amount Failed

**193.21K**

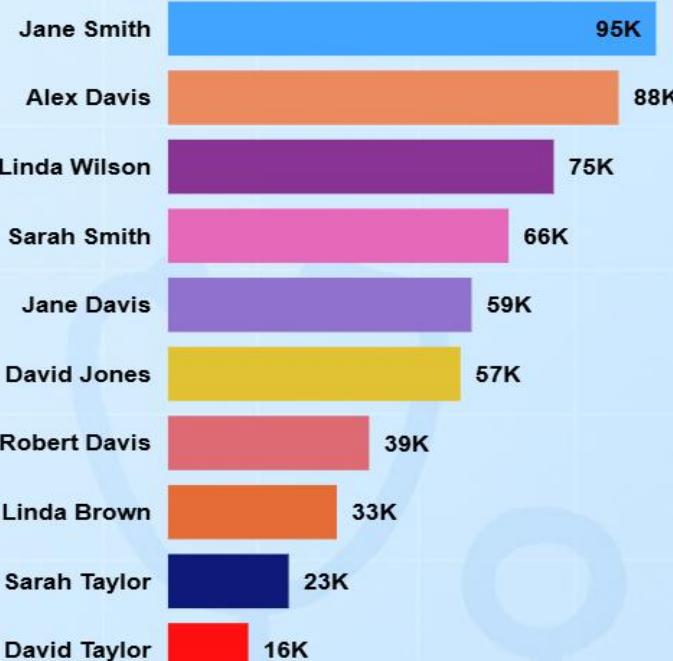
(Blank)

Central Hospital



Eastside Clinic

## Revenue By Doctor



## Revenue By Treatment Type



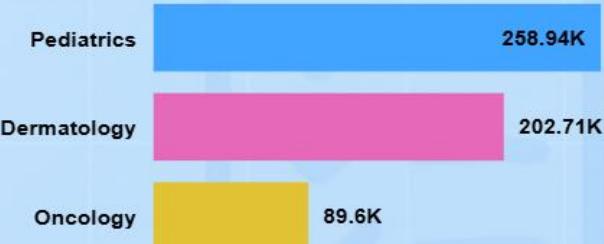
## Revenue By Hospital Branch



## Payment Method Analysis



## Revenue By Specialization





# Healthcare Management Analysis

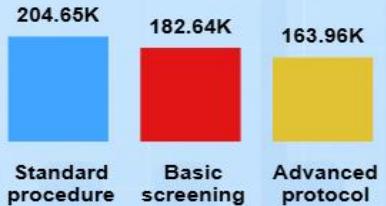
(Blank)

Central Hospital

Eastside Clinic

Westside Clinic

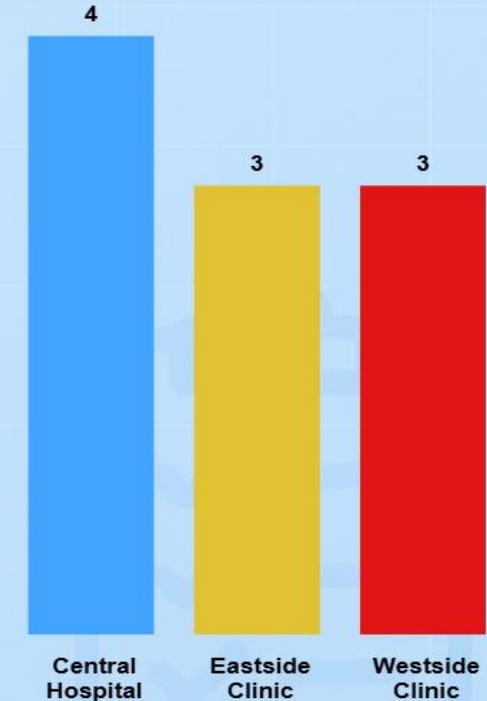
## Total Revenue by description



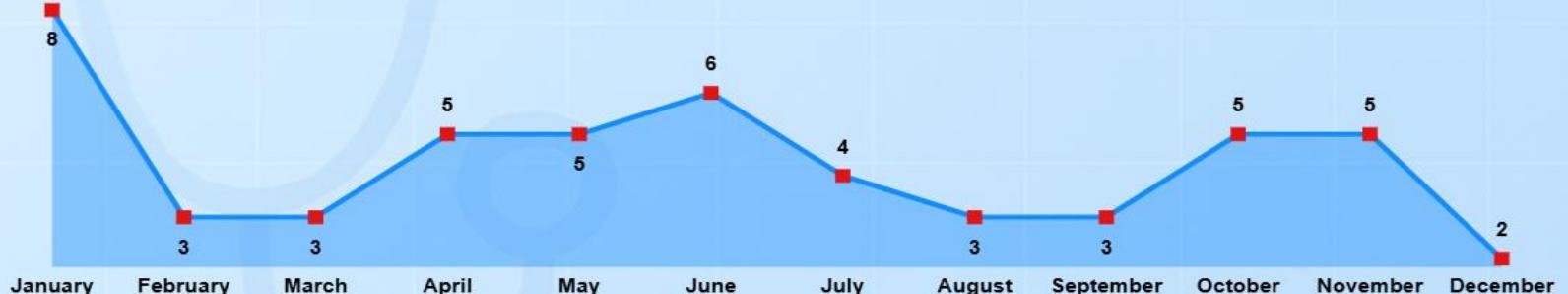
## Revenue By Month



## Doctor By Hospital Branch



## No Shows By Month



## DERIVE CONCLUSION AND INFERENCES FROM THE DASHBOARD.

- Conversion crisis in the appointment funnel
- Out of 200 appointments: **52 no-shows (26%), 51 cancelled (26%), only 46 completed (23%).**
- That's **>50% lost** before treatment—your biggest revenue leak.
- Collections problem, not demand
- **Total revenue: 551.25K** but only **173.42K paid (31%)**; **184.61K pending (33%)** and **193.21K failed (35%)**.
- Even without more patients, cashflow can improve massively by fixing billing.
- Westside is most profitable per visit
- Appointments: Central 84, Eastside 62, Westside 54.
- Revenue: Central 229.0K, Eastside 162.0K, Westside 160.2K.
- **Revenue per appointment ( $\approx$ K/visit):** Central 2.73, Eastside 2.61, **Westside 2.97**  
→ Westside yields the **highest value per slot** despite the fewest visits.
- Doctor mix is inefficient



## INSIGHTS AND CONCLUSIONS.

- Highest appointments: **Sarah Taylor (29)** and **David Taylor (25)** but their revenue is **23K** and **16K** →  $\sim\text{₹}0.64\text{--}0.79\text{K/visit}$  (lowest).
- **Jane Smith (22 appts)** drives **95K** ( $\approx 4.32\text{K/visit}$ ). **David Jones** has only 14 appts but  $\approx 4.07\text{K/visit}$ .
- You're giving too many slots to low-yield profiles.
- What drives money
- By specialization: **Pediatrics (258.9K)** > Dermatology (202.7K) >> Oncology (89.6K).
- By treatment: **Chemo (128.9K)**, **MRI (116.1K)**, **X-Ray (110.7K)**, **Physio (99.4K)**, **ECG (96.2K)**.
- By procedure description: **Standard procedures (204.7K)** lead; **Advanced protocol (164.0K)** lags—possible under-conversion from screening to advanced care.
- Seasonality & show-up behavior
- Revenue peaks **Apr (64K)** & **Jun (57K)**; dips **Sep (33K)** & **Dec (28K)**.
- No-shows peak **Jan (8)** & **Jun (6)**; trough **Dec (2)** → calendar aware interventions matter.



## INSIGHTS AND CONCLUSIONS.

- Payer & method mix
- MedCare Plus is top insurer; payment split is fairly even (**Card 201K, Insurance 182K, Cash 168K**).
- Without denial/aging breakdowns, failure hotspots are unclear—likely an upstream eligibility/claims issue.
- Patient profile
- **Male 31 vs Female 19** → opportunity to grow women's health segments.
- Visits are largely **Checkup/Consult/Therapy/Follow-up (41–45 each)** → great base for continuity programs.



## SOLUTIONS.

- A) Fix the funnel (largest ROI)
- **24–48 hr WhatsApp/SMS reminders** + “tap-to-confirm” link; auto-reschedule if no response.
- **Same-day waitlist + 10–15% smart overbooking** in hours where no-show rate is highest (Jan/Jun; Mon/Tue mornings—verify).
- **Tele-visit fallback** for follow-ups/consults.  
**Impact math:** 30% fewer no-shows (~15 visits) at ~2.76K/visit  $\approx +43K$ /month; 20% fewer cancellations  $\approx +28K$ /month.
- B) Collect the cash you already earned
- **Pre-auth cards/UPI**, eligibility check before high-ticket MRI/Chemo;
- **Denial management**: track claim reasons, first-pass acceptance %, and resubmission SLAs;
- **Automated dunning** (T+3, T+7, T+14) with payment links; offer **EMI** for >10K bills.  
**Impact math:** Cut failed by 25%  $\rightarrow +48K$ ; clear pending by 30%  $\rightarrow +55K$  realized.

# SOLUTIONS.

- C) Rebalance scheduling to revenue per appointment (RPA)
- Route high-value procedures/new referrals to **Jane Smith, David Jones, Linda Wilson, Sarah Smith** (all  $\geq 3.8K/\text{visit}$ ).
- Move high-volume/low-value screenings to **Sarah/David Taylor**; shorten slot length for them to increase throughput.
- Publish **transparent lead times** so high-value doctors get filled first.  
**Bonus:** +10 extra Westside visits/month at 2.97K  $\approx +30K$ .
- D) Grow what works
- **Pediatrics & Dermatology:** add evening clinics/camps; bundle (**Checkup → Screening → Advanced**) care paths; track conversion rates between steps.
- **Women's health drive** (PCOS/thyroid/skin): targeted campaigns to close the gender gap.
- E) Seasonal playbook
- **Jan & Jun:** double reminders, flexible rescheduling, and small ₹100 **pre-book deposit** (waived on show).
- **Sep & Dec** dips: corporate checkup tie-ups, school health camps, vaccine drives.
- F) Data hygiene quick wins
- Fix (**Blank**) in branch slicer; standardize doctor names; ensure **one row per appointment/treatment**; capture **payment\_status** consistently.