HEART ATTACK ANALYSIS

TEAM 3:
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AGENDA

- Roleplay introduction
- Business Problem
- ER Diagram explanation
- Reports insights
- Conclusion

TEAM - 3

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(This roleplay / story telling is just to make the presentation interactive and understandable and does not have a literal sense to it.)

BUSINESS PROBLEM:

Maximize profits for Apollo hospital

ER DIAGRAM

ZIP code

Varchar	zip_id	PK
Varchar	patient_id	FK
Varchar	zip_code	
Varchar	address	

Patient

Varchar	patient_id	PK
char	name	
Int	gender	BOOLEAN
Int	age	

Heart Attack Record

Varchar	heartattack_id	PK
Varchar	patient_id	FK
Varchar	diagnosis_id	
Int	heartattack	BOOLEAN
Int	bloodpressure	
Int	cholesterol	
Int	bloodsugar	

Associate

prescription

Varchar	presc_id	PK
Varchar	heartattack_id	FK
Varchar	med_id	FK
char	doc_name	
Int	dosage	
Date	timestamp	

Medicines

Varchar	med_id	PK
Varchar	medicine name	
Varchar	manufacturer	

Associate

Diagnosis

Varchar	diagnosis_id	PK
Varchar	heartattack_id	FK
Varchar	doctor_id	FK
Varchar	description	

Doctor

Varchar	doctor_id	PK
char	doc_name	
Boolean	gender	
Int	age	

REPORT- 1

```sql
Select zip_code, count(heartattack_id)
from Heart_attack_record a left join zipcode b on a.patient_id = b.patient_id
group by 1
order by 2 desc;
```

zipcode 1

Select zip_code, count(heartattack_id) from Heart | Enter a SQL expression to filter results (use Ctrl+Space)

Grid | Text

	zip_code	count(heartattack_id)
1	90,210	5
2	10,001	3
3	90,212	3
4	60,601	3
5	30,301	2
6	30,303	2
7	75,201	1
8	94,102	1

REPORT - 2

```sql
select
case when age >=18 and age<50 then 'adult'
when age >= 50 then 'old'
else 'adolescents'
end as age,
case when gender = 1 then 'Male' else 'Female' end as gender,
count(*)
from Heart_attack_record a left join PATIENT b on a.patient_id  = b.patient_id
group by 1,2
order by 1,2;
```

Results 1

select case when age >=18 and age<50 then 'adu | Enter a SQL expression to filter results (use Ctrl+Space)

Grid | Text

	age	gender	count(*)
1	adolescents	Female	1
2	adolescents	Male	1
3	adult	Female	3
4	adult	Male	4
5	old	Female	7
6	old	Male	4

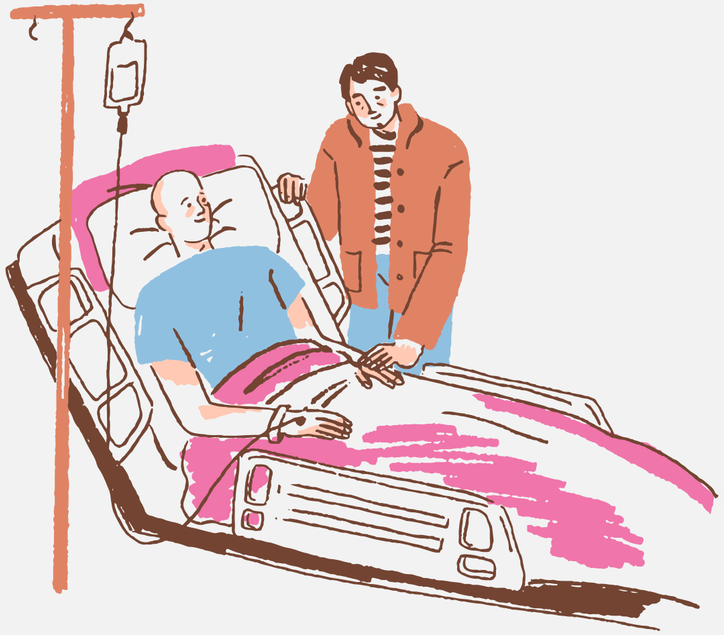
REPORT - 3

```sql
With operations as
(
Select a.*, b.doc_name from Diagnosis a left join Doctor b on a.doctor_id = b.doctor_id where heartattack = 1
),
aggregation as (
Select doctor_id, doc_name,
sum(case when diagnosis = 'successful' then 1 else 0 end) as total_successful,
sum(case when diagnosis = 'unsuccessful' then 1 else 0 end) as total_unsuccessful,
count(doctor_id) as total
From operations
Group by 1)
select doctor_id, doc_name,
(total_successful/total)*100 as perc_success,
(total_unsuccessful/total)*100 as perc_unsuccess
from aggregation
order by 1
;
```

Diagnosis(+) 1 ×

With operations as (Select a.*, b.doc_name from | Enter a SQL expression to filter results (use Ctrl+Space)

	doctor_id	doc_name	perc_success	perc_unsuccess
1	doc1001	Dr. Smith	54.5455	45.4545
2	doc1002	Dr. Johnson	60	40
3	doc1003	Dr. Williams	66.6667	33.3333
4	doc1004	Dr. Brown	58.3333	41.6667
5	doc1005	Dr. Davis	58.3333	41.6667



REPORT - 4

```sql
SELECT prescriber_name,
       SUM(CASE WHEN medicine_name = 'Aspirin' THEN 1 ELSE 0 END) AS Aspirin,
       SUM(CASE WHEN medicine_name = 'Lisinopril' THEN 1 ELSE 0 END) AS Lisinopril,
       SUM(CASE WHEN medicine_name = 'Simvastati' THEN 1 ELSE 0 END) AS Simvastatin,
       SUM(CASE WHEN medicine_name = 'Metoprolol' THEN 1 ELSE 0 END) AS Metoprolol,
       SUM(CASE WHEN medicine_name = 'Clopidogre' THEN 1 ELSE 0 END) AS Clopidogrel,
       SUM(CASE WHEN medicine_name = 'Nitroglyce' THEN 1 ELSE 0 END) AS Nitroglycerin
FROM (
    SELECT a.patient_id, b.timestamp AS fill_date, b.med_id, c.medicine_name, b.doc_name AS prescriber_name
    FROM Heart_attack_record a
    LEFT JOIN Prescription b ON a.heartattack_id = b.heartattack_id
    LEFT JOIN Medicine c ON b.med_id = c.med_id
) AS subquery
GROUP BY prescriber_name asc
WITH ROLLUP;
```

Prescription 1

SELECT prescriber_name, SUM(CASE WHEN medi | Enter a SQL expression to filter results (use Ctrl+Space)

Grid | Text

	prescriber_name	Aspirin	Lisinopril	Simvastatin	Metoprolol	Clopidogrel	Nitroglycerin
1	Dr. Brown	0	0	0	3	1	0
2	Dr. Davis	1	0	0	1	1	1
3	Dr. Johnson	1	0	2	1	0	0
4	Dr. Smith	2	2	0	0	0	0
5	Dr. Williams	0	0	2	2	0	0
6	[NULL]	4	2	4	7	2	1

REPORT - 5

```sql
-- Expired or not
with cte as(
select medicine_name,
case when exp_date > NOW() then 'not expired' else 'expired' end as status,
sum(stock) as stock
from Medicine
group by 1,2
)
select * from cte
order by 1;
```

edicine 1 ×

ith cte as(select medicine_name, case when ex| Enter a SQL expression to filter results (use Ctrl+Space)

	medicine_name	status	stock
	Aspirin	expired	9
2	Aspirin	not expired	19
3	Clopidogrel	expired	30
4	Clopidogrel	not expired	26
5	Lisinopril	expired	2
6	Lisinopril	not expired	41
7	Metoprolol	expired	0
8	Metoprolol	not expired	15
9	Nitroglycerin	expired	18
10	Nitroglycerin	not expired	45
11	Simvastatin	expired	3
12	Simvastatin	not expired	11

CONCLUSION

We learned about different functions in SQL and gained the ability to formulate queries to address real-time business problems.

CONCLUSION

If given the opportunity to restart the project, I would like to create a scenario, formulate an ER diagram, and then populate data for it. Since this project is focused on effectively answering business problems.

THANK YOU