

Q. Questions which I didn't answer?

- ① Gateway implementation.
- ② RLS practical.
- ③ How to make interactive dashboard
- ④ ADF
- ⑤ Power BI

Q.1 How to make interactive dashboard?

→ open the report in Power BI Service

on top bar pin a live page, click on this i.e  
pin a live page > click on create New dashboard  
give name sales final dashboard Finally  
click on pin live button that's it.

Q. If you have two tables and they are connected with many to many relationship with each other then what will be your approach to resolve?

→ ① Observe the data of both the tables by data view tab.

② jump or come inside the Power Pivot/modeling & make a relationship between them if it is not. So you will cardinality  
many(\*) to many(\*)

cross filter

Both 

Answer to interviewer:- we have to create a mediator table between them & problem will be solved.  
& explain the below solution.

- ① Delete the existing many to many relationship between two tables.
- ② come inside the transform data tab (P&E)  
Home tab
- ③ from left side you will see the two table so right click on fact table or any <sup>one</sup> of the table and create duplicate table & give name as bridge table.
- ④ The newly created table i.e. bridge  
right click on the common column among all tables and Remove other columns.
- ⑤ Again remove the duplicate values from that common column of bridge table, so now we have unique values under the bridge table a column then click on close & apply.
- ⑥ Come inside the model view so you will see Power BI has been already created relationship one to many bet<sup>n</sup> them automatically if not then do it by yourself

## Q what is data modeling :-

- (i) Data modelling / Power Pivot is used to create relationship between the tables.
- (ii) creating relationships among tables -
- (iii) Data modelling is heart of power BI
- (iv) All data i.e. tables together is called data model.  
Q Why data modelling is needed?
- (i) While we are creating reports or visuals so visual should be correct, the visual should match with the raw data
  - i.e. counts, records etc.
- (ii) I have seen practically we can't create visuals by selecting sales from one table & profit from another table unless we define the relationship b/w them.
- Q When it is needed i.e. data modelling?  
→ Once we are done with the power query editor kind of work i.e. data cleaning / data wrangling / data manipulation

$$\boxed{\text{Total sales} = \text{Quantity} * \text{price}}$$

①

\* Dimension table :- ① The data like product id, product name, manufacturing date and the data is not going to change frequently i.e. people name like my name, Age, DOB

This kind of master information that we stored into the table is called as "Dimension table" or master <sup>table</sup> unique data.

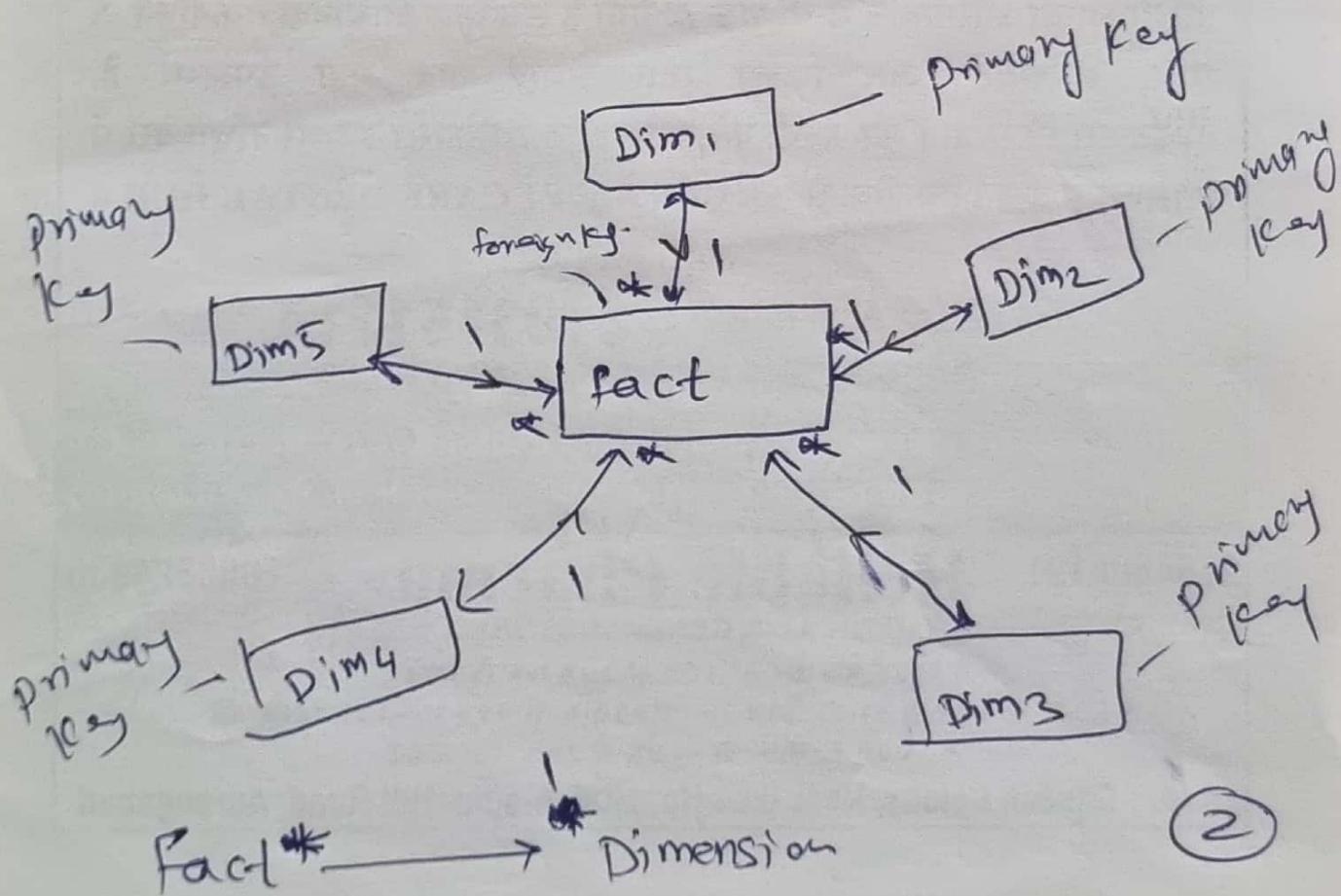
② The table on which we didn't perform mathematical calculation

\* Fact table :- ① In this table we stores that data ~~on which~~ which we can analyze, summarize

examples:- Sales order, sales date

② Also, on which we can do mathematical calculations.

### Star Schema overview



②

\* Super Super important ③

① From Dimension<sup>1</sup> → fact table

unique  
row  
for corresponding  
the multiple  
row in fact  
table

cardinality

- ① one to many (1, \*)
- ② one to one (1, 1)
- ③ many to one (\*, 1)

② Always dimension table filtering  
the fact table then

(Power BI UI

) cross filter direction  
↳ single.

③ If we want to have filter both  
the side i.e. fact → dimension or  
dimension to fact then we

used cross filter direction

↳ Both

④ In power BI there is only one active  
relationship at a time

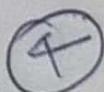
Q What is KPI in power BI or Business intelligence?

→ OKPI stands for Key performance indicator

- ① A KPI is a visual which shows whether we are going towards our target goal or not.
- ② We have defined business goals and tracking whether we are on track or not.

Q When to use KPI?

- To measure progress. Answer the question
    - "What am I ahead or behind on?"
  - To measure distance to goal
    - "How far ahead or behind am I?"
- ① Example: Let suppose any sales company decided to sell a particular product 100 unit within two weeks or a month
- ② Any company decided to hire 500 employee in October, 500 hiring employee is the KPI of this company.



## Q End to end power BI project (5)

Q If your company have every month sales file so you have to make a power BI report & dashboard one time and the data report get automatic every month, No need to do it manually

→ Solution - Power BI > Get data > file ↳ folder

→ Paste path > combine > finally hit  
choose as per E on ok button  
your need

Q To combine this B6 files ~~conditions~~ required

→ ① column name in every files must be same

② position of columns can be here & there

③ number of columns can be less or more

④ what will happen if number of records are different

→ nothing will happen

\* Automate report sending to manager (6) on weekly or monthly basis.

-> Create visuals

(i) publish report by clicking publish button

(ii) once report gets published

look there is interface on header i.e

click on Subscribe to report

→ Add new subscription

→ Add emails of people

⑤ Frequency

- Daily
- weekly ✓
- monthly
- Hourly

(Stock market company)

mon Tue wed thu fri Sat Sun

⑥ Scheduled time

10 AM

timezone ↗

⑦ Click on more options

→ Subject: Daily sales report

Body of message

Hello Adam,

Please refer to the daily report

③ Under more options

→ Report page

[Page]

Select as per your needs

Start date

End date

\* Thumb rule:-

- ① If you see duplicate data in dimension table or tables, your first job is to remove those duplicate data.
- ② Make sure to adjust the primary key and foreign key record, what I mean here

ID	name	city
ID-1	-	-
ID-2	-	-
ID-3	-	-
ID-4	-	-
ID-5	-	-
:	-	-

ID	name	city
1		
2		
3		
4		
5		
:		

- ③ In BRD it is our job to convert in which format they will give you so accordingly do that
- ④ Right click on column header > replace  
[ID-] with null

\* Being experienced in Power BI

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- ① Try to rename all the steps that you have taken while working in power query editor it will show the right side dashboard.  
like change column type from float to whole

\* Thumb rule :-

- ① Any data which is having any date column or date ~~dat~~ type column in any of the table, it is always best practice to create, separate Masterdate table.

\* How to add new table / tables i.e Date master by referencing existing tables columns .

→ If my requirement is to create calendar Date.

Masterdate = Calendar (table\_name)

Masterdate = Calendar (FirstDate (table\_name [column name]),  
LastDate (table\_name [column name])))

Now which you want

• If you want to add new column existing .

→ Power BI desktop > column tools > click on new then write formula like below column

Month = Month (Masterdate [Date])

Year = Year (Masterdate [Date])

Month name = Format (Masterdate [Date], "MMMM")

If my requirement is to add more columns  
like Quarter, weeknumber, ⑨

> power BI desktop

Quarter = Quarter(DateMaster[Date])

week = weeknum(DateMaster[Date])  
Number

weekday = weekday(DateMaster[Date])

weekday name = format(DateMaster[Date],

'DDDD', 'DD DD')

1	Sun	Sunday
2	Mon	Monday

\* Dax calculate.

① If we have to multiply two columns from two different tables then how can I?

→ Total revenue = Sales[Unit] \* Related(  
ProductSales[RetailPrice])

Q. What is difference between workspace and my work space? (10)  
i.e Me only.

→ Rough book notes → Tuition night in speed  
final book Notes → workspace i.e  
After coming to home night again in sequential & structure way so, they will Xerox and able to study by this Notes book.  
All work in this space is accessible by all team member like me, Ni, Sa, Pr, Adam, Robby, ...

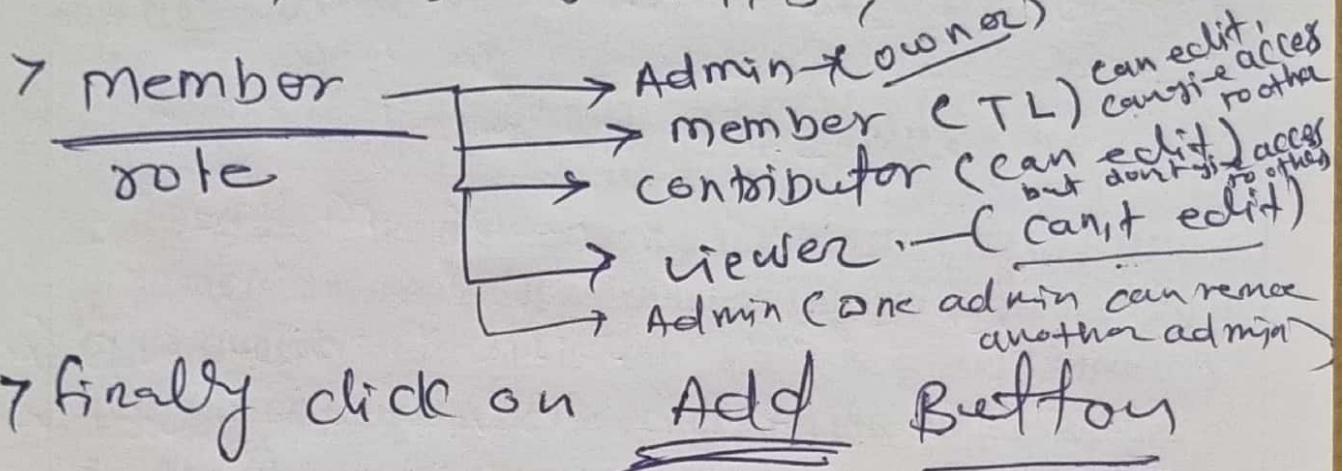
Q Create workspace in power BI  
→ Power BI service Page > Click on workspace  
    > Create workspace > Retail Project >  
        (Name of workspace)

Description >  
(This project is for implementation)  
----> Finally click on Save  
button to create workspace

Q How to publish a report?  
→ Create visuals > Click on Publish button  
It will ask you on which workspace you want to publish so as per your need select the workspace.  
So just select by clicking the required workspace > Select > click on this > Your report get published.

Q How to provide/give access to the report which just I published? ⑪

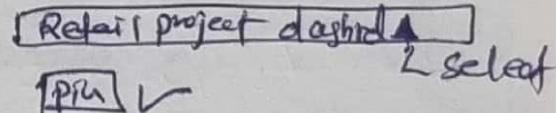
- come inside that workspace > click on ACCESS button which is at top bar
- > Add email to access this report  
Adam, robby@xyz.com, Mr, SA, ---



Q How to create a dashboard?

- Come inside the workspace of your required report > click on New

- > Give dashboard Name  
(Retail project dashboard) > Create Button

- ① open the report, this report having multiple pages so it's up to you to add which visuals you want to add in the one page dashboard.
- By click pin on visuals > select existing dashboard.
- 

Q. Difference between dashboard & report? (12)

→ Report can be from different dataset, different data sources, different visuals combination, ~~diff~~ combination of different visuals coming from different pages.

\* Dashboard:-

It is single page application which is not interactive.

Q What is gateway?

→ If I want to refresh data so that new data will refresh in Power BI, also reports/dashboards will also get refreshed once I click on the refresh button

# Gateway:- (Alarm clock)

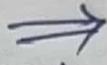
If I want to automate this refresh work then Gateway came into a picture

If you get data like below then how to  
and what to do with this data?

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Pivot

2021	2023	2024	2025
100	50	20	10
200	60	30	20
300	70	40	30
400	80	50	40
!	!	!	!



Year	Sales
2021	100 100
2023	50 200
2022	20 300
2024	10 400
2025	50
2023	60
2025	70
2025	80
2024	20
2024	30
2024	40
2024	50
2025	10
2025	20
2025	30
2025	40

unpivot

→ select 2021, 2023 - 2025  
from column header  
then right click  
unpivot only selected  
columns

conversion from column to rows is called  
as unpivot

Q When to say data is cleaned?

→ If the data follows 100%, 0%, 0 rule  
under the power query editor View

# DAX functions Power BI

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→ DAX is data analysis expression, If we have cleaned data but <sup>do not</sup> have the cost, sales or profit then how can we draw visuals or report.

① To calculate cost, profit, sales, the dax is used to calculate the same.

cost = unit price × order quantity then drag

Sales = list price × order quantity

Profit = Sales - cost, then drag & drop.

Q What is DAX?

→ ① Programming language in power BI

② similar to excel functions

③ Allows more advanced formulas.

Q Before learning, ask a question yourself why it is required / what is a need?



Q How to write a Dax function in  
power BI?

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→ Power BI > table view > add column >  
column = table['column name'] & table(columnname)

### \* Date time function:-

Q If my manager/client ask me on which  
date/month/week/quarter our sales  
was high.

Trick :- If we have date/time  
field then line or area chart  
would be the best option.

Year = Year(table[Date])

Month = Month(table[Date])

Add column everytime for separate  
column.

Day = Day(table[Date])

Quarter = quarter(table[Date])

Day = Day weekday(table

Weeknum = weeknum(table[Date])

Week name = format(table[Date], "DDD")

## \* Today VS Now Date function:-

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Now = 11-01-2022 11:52:56

Today = 11-01-2022 00:00:00

This used like google pay/  
phone pe or ticket details

Date of birth.

Q What is Measure?

→ It is the calculation that can be applied to any visuals.

Drag & drop  
sales &  
country

→ By default it take sum of sales, I have to go and do changes in the sum to average in the format pane.

Solution -- why not create a function so you can only used in the visual and this will not go into add in the table

Q How to create measure?

→ click on measure i.e. V1  
average-Sales = Average(table{Sales})

Q Column & Measure difference?  
→ column add in the table but measure calculate for visual.

Q What are the uses of Measures?

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→ ① We can't add the new column into our dataset because the data is our client data, Also If we don't want to increase the size of dataset.

② Measure only can see the end user only under visual right side data field to draw visuals/charts.

Q SUM VS SUMX?

→ This is used only when we have the existing column present in the dataset this SUM  
i.e Total Sum = Sum(table[column])

\* SUMX:-

→ This is used when we don't have the existing column i.e total sales also we don't want to add that column in the dataset as per client requirement(needs).

→ Add measure first then  $\Sigma$

total Sales using SUMX  
 $= \text{SUMX}(\text{table}, \text{table}[column],$   
 $* \text{table}[column])$   
  <sup>price</sup>  
  <sub>quantity</sub>)

① SUM can apply only on the existing column

② SUMX can't be apply on <sup>non</sup> <sub>existing</sub> column i.e measures

$\text{Sumx} = \text{Sumx}(\text{table}, \text{expression})$   
General syntax:

## \* calculate function -

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- ① This is one of the widely used function in real time scenario.
- ② In simple it is like SQL query with where condition
- ③ It calculate the measures based upon some filter condition.

Q Scenario, I want to see the which

country	sales
A	1
B	2
C	3
D	4

category/region/

subcategory giving  
the sales.

So I will just add  
slicer of category/  
region/sub category

Click on it so visuals  
get changed because they are interactive  
I have to add in the visuals that particular category

Q My manager/ client said that I have  
to see the "Bikes" category sales only  
as per the country.

→ Here we have to use calculate function  
Add measure then

i.e. Bike sales = Calculate(Sum(  
table [sales]), table [category] = "Bikes")

Conty	Sales	Bike sales
A	1	0.9
B	2	1.9
C	3	2.9
D	4	3.8

Because most of the  
profit are coming  
from Bike.

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\* count rows = `Count(table)`

By adding measure into the visual's right side panel & used card's drag & drop

\* count number of rows to specific column = `count(table[A])`

↓  
It excludes the blank values.

\* To count blank in a column.

Blank values of color = `CountBlank(table[A])`

# want to see distinct categories in a column  
= `DistinctCount(table[A])`

↓  
| → It counts 1      → It includes  
|                          blank lot  
|                          values  
as well.

Q Create a region column for the customers for the corresponding region ids.

Before

Sales	Region ID
123	1
786	1
313	2
418	2
420	3

After

Add column :-

Region name = `if (table[Region ID]`  
 $= 1, "South", if (table[RegionID])$   
 $= 2, "Central", if (table[RegionID])$   
 $= 3, "North"))$

↓  
Because I use  
3 if

\* Switch function:- It is the best alternate of IF Function, Because we are using multiple if conditions so it becomes very complex like we saw in the (20)

→ Add column region name using switch.

= Switch (true(), table[column] = 1, "South",  
table[column] = 2, "Central", table[column] = 3,  
"South")

# To calculate the total profit using  
SumX function, By adding ~~Measure~~ <sup>Measure</sup>.

Total Profit = SumX (table, expression)

= sumx (table, table[Sales] -  
Bikes[Cost])

# How to create Sub table

click on add table

- Summarize table = Summarize (table,  
table[Country], "Total Sales", [Total Sales],  
"Total Profit", [Total Profit])

→ Group by column we need to provide

what name in the table you want to  
show like alias in SQL

Summarize column = SummarizeColumns(

table[column], filter(table, table[column] == "Bikes"),

Group by column  
like country

"Total Sales", [Total Sales],  
"Total Profit", [Total Profit])

Summarize columns <table[country], filter(  
table, table[Business Segment] == "Bikes"),  
"Total Sales", [Total Sales], "Total Profit", [Total  
Profit]).

Q scenario is like below.

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Customer Name	Sales	Customer Name	Sales	Rank
Xyz	100	Xyz	100	1
ABC	90	ABC	90	2
PQR	80	PQR	80	3
Khan	70	Khan	70	4
Pawan	60	Pawan	60	5
Rahul	50	Rahul	50	6

\* Rank:-

① measure = RankX(All(table[Customer Name]),  
[Total Sales], , Desc, Dense) <sup>To give even  
rank</sup>  
measure <sup>ignoring value parameter</sup>

② Measure has created just drag & drop.

\* Top 10 records table.

Top 10 records of total sales = TOP N(10,  
table,[Total Sales], desc)  
  
Measure expression |  
order |

\* Coalesce :-

→ Ideally there shouldn't be any blank value  
in the column i.e. sales, profit or any, to  
change or insert blank value with the  
"0" or as per the data owner suggestion.

column = Coalesce(table[column], 0)

↓  
replace blank with 0, if not blank  
then keep the existing value