#to create a single view for all reservations, we select union to merge all data from year 2018, 2019, 2020

select \* from dbo.[2018]

union

select \* from dbo.[2019]

union

select \* from dbo.[2020]

#To create a single temporary table view as a CTE (common table expression) so that we don't have to write the above query every time, we create a temporary table

WITH ctehotels AS(

select \* from dbo.[2018]

union

select \* from dbo.[2019]

union

select \*from dbo.[2020])

select \* from ctehotels ( always end the CTE statement with a select statement for it to execute. Or you get an error - Incorrect syntax near ‘)’

#to calculate the revenue from stays we add a new column to add stays during weekends and weekdays. This is to calculate if the revenue is growing by the year.

WITH ctehotels AS(

select \* from dbo.[2018]

union

select \* from dbo.[2019]

union

select \*from dbo.[2020])

select (stays\_in\_week\_nights+stays\_in\_weekend\_nights)\*adr as revenue from ctehotels

adr = average daily rate

#To get the revenue data by the year:

WITH ctehotels AS(

select \* from dbo.[2018]

union

select \* from dbo.[2019]

union

select \*from dbo.[2020])

select

arrival\_date\_year,

(stays\_in\_week\_nights+stays\_in\_weekend\_nights)\*adr AS revenue

from ctehotels

#to get total revenue by the year, we need to sum the revenue and group by year

WITH ctehotels AS(

select \* from dbo.[2018]

union

select \* from dbo.[2019]

union

select \*from dbo.[2020])

select

arrival\_date\_year,

sum((stays\_in\_week\_nights+stays\_in\_weekend\_nights)\*adr) AS revenue

from ctehotels

group by arrival\_date\_year

#to get the revenue by year and also the hotel type, we add and group by ‘hotel’ in the query

WITH ctehotels AS(

select \* from dbo.[2018]

union

select \* from dbo.[2019]

union

select \*from dbo.[2020])

select

arrival\_date\_year,

hotel,

round(sum((stays\_in\_week\_nights+stays\_in\_weekend\_nights)\*adr),2) AS revenue

from ctehotels

group by arrival\_date\_year, hotel

#the market segment table talks about the discount the hotel gives to different types of market segment. The meals cost explains the cost of every meal. We can join these two tables to create a consolidated view. We can use left join to create one table with meal costs and discount for market segment.

#However, this gives us 2 duplicate columns for meals and market segment as we joined on those two columns. We can drop them when we are visualizing.

WITH ctehotels AS(

select \* from dbo.[2018]

union

select \* from dbo.[2019]

union

select \*from dbo.[2020])

select \* from ctehotels

left join dbo.marketsegment

on ctehotels.market\_segment = marketsegment.market\_segment

left join dbo.mealcost

on ctehotels.meal = mealcost.meal

#To visualize and calculate in PowerBI

1. Load data by connecting SQL server to PowerBI
2. To visualize revenue / add a customize column and enter formula to calculate revenue (stay\_during\_week\_nights+stay\_during\_weekend\_nights\*(adr\*discount)
3. Convert revenue column into decimal number by clicking on left hand corner of the column
4. Close the table and build the visualization.
5. Click on the field you want and drag to the main screen
6. Drag revenue and ADR avg to the screen
7. To calculate