Select \*

From Google\_CaseStudies..June\_2020

--Changing the datatypes of tables to match the datatype of every table

Alter Table June\_2020 alter Column start\_station\_id nvarchar(255)

Alter Table June\_2020 alter Column end\_station\_id nvarchar(255)

Alter Table June\_2020 alter Column ride\_length time(0)

Alter Table July\_2020 alter Column start\_station\_id nvarchar(255)

Alter Table July\_2020 alter Column end\_station\_id nvarchar(255)

Alter Table July\_2020 alter Column ride\_length time(0)

Alter Table August\_2020 alter Column start\_station\_id nvarchar(255)

Alter Table August\_2020 alter Column end\_station\_id nvarchar(255)

Alter Table August\_2020 alter Column ride\_length time(0)

Alter Table September\_2020 alter Column start\_station\_id nvarchar(255)

Alter Table September\_2020 alter Column end\_station\_id nvarchar(255)

Alter Table September\_2020 alter Column ride\_length time(0)

Alter Table October\_2020 alter Column start\_station\_id nvarchar(255)

Alter Table October\_2020 alter Column end\_station\_id nvarchar(255)

Alter Table October\_2020 alter Column ride\_length time(0)

Alter Table November\_2020 alter Column start\_station\_id nvarchar(255)

Alter Table November\_2020 alter Column end\_station\_id nvarchar(255)

Alter Table November\_2020 alter Column ride\_length time(0)

Alter Table December\_2020 alter Column start\_station\_id nvarchar(255)

Alter Table December\_2020 alter Column ride\_length time(0)

Alter Table January\_2021 alter Column start\_station\_id nvarchar(255)

Alter Table January\_2021 alter Column ride\_length time(0)

Alter Table February\_2021 alter Column start\_station\_id nvarchar(255)

Alter Table February\_2021 alter Column ride\_length time(0)

Alter Table March\_2021 alter Column start\_station\_id nvarchar(255)

Alter Table March\_2021 alter Column ride\_length time(0)

Alter Table April\_2021 alter Column end\_station\_id nvarchar(255)

Alter Table April\_2021 alter Column ride\_length time(0)

Alter Table May\_2021 alter Column ride\_length time(0)

--Creating a new table by consolidating results from all the tables

INSERT INTO Total\_results

Select [ride\_id]

,[rideable\_type]

,[started\_at]

,[ended\_at]

,[ride\_length]

,[day\_of\_week]

,[start\_station\_name]

,[start\_station\_id]

,[end\_station\_name]

,[end\_station\_id]

,[member\_casual]

From Google\_CaseStudies..June\_2020

Union

Select [ride\_id]

,[rideable\_type]

,[started\_at]

,[ended\_at]

,[ride\_length]

,[day\_of\_week]

,[start\_station\_name]

,[start\_station\_id]

,[end\_station\_name]

,[end\_station\_id]

,[member\_casual]

From Google\_CaseStudies..July\_2020

Union

Select [ride\_id]

,[rideable\_type]

,[started\_at]

,[ended\_at]

,[ride\_length]

,[day\_of\_week]

,[start\_station\_name]

,[start\_station\_id]

,[end\_station\_name]

,[end\_station\_id]

,[member\_casual]

From Google\_CaseStudies..August\_2020

Union

Select [ride\_id]

,[rideable\_type]

,[started\_at]

,[ended\_at]

,[ride\_length]

,[day\_of\_week]

,[start\_station\_name]

,[start\_station\_id]

,[end\_station\_name]

,[end\_station\_id]

,[member\_casual]

From Google\_CaseStudies..September\_2020

Union

Select [ride\_id]

,[rideable\_type]

,[started\_at]

,[ended\_at]

,[ride\_length]

,[day\_of\_week]

,[start\_station\_name]

,[start\_station\_id]

,[end\_station\_name]

,[end\_station\_id]

,[member\_casual]

From Google\_CaseStudies..October\_2020

Union

Select [ride\_id]

,[rideable\_type]

,[started\_at]

,[ended\_at]

,[ride\_length]

,[day\_of\_week]

,[start\_station\_name]

,[start\_station\_id]

,[end\_station\_name]

,[end\_station\_id]

,[member\_casual]

From Google\_CaseStudies..November\_2020

Union

Select [ride\_id]

,[rideable\_type]

,[started\_at]

,[ended\_at]

,[ride\_length]

,[day\_of\_week]

,[start\_station\_name]

,[start\_station\_id]

,[end\_station\_name]

,[end\_station\_id]

,[member\_casual]

From Google\_CaseStudies..December\_2020

Union

Select [ride\_id]

,[rideable\_type]

,[started\_at]

,[ended\_at]

,[ride\_length]

,[day\_of\_week]

,[start\_station\_name]

,[start\_station\_id]

,[end\_station\_name]

,[end\_station\_id]

,[member\_casual]

From Google\_CaseStudies..January\_2021

Union

Select [ride\_id]

,[rideable\_type]

,[started\_at]

,[ended\_at]

,[ride\_length]

,[day\_of\_week]

,[start\_station\_name]

,[start\_station\_id]

,[end\_station\_name]

,[end\_station\_id]

,[member\_casual]

From Google\_CaseStudies..February\_2021

Union

Select [ride\_id]

,[rideable\_type]

,[started\_at]

,[ended\_at]

,[ride\_length]

,[day\_of\_week]

,[start\_station\_name]

,[start\_station\_id]

,[end\_station\_name]

,[end\_station\_id]

,[member\_casual]

From Google\_CaseStudies..March\_2021

Union

Select [ride\_id]

,[rideable\_type]

,[started\_at]

,[ended\_at]

,[ride\_length]

,[day\_of\_week]

,[start\_station\_name]

,[start\_station\_id]

,[end\_station\_name]

,[end\_station\_id]

,[member\_casual]

From Google\_CaseStudies..April\_2021

Union

Select [ride\_id]

,[rideable\_type]

,[started\_at]

,[ended\_at]

,[ride\_length]

,[day\_of\_week]

,[start\_station\_name]

,[start\_station\_id]

,[end\_station\_name]

,[end\_station\_id]

,[member\_casual]

From Google\_CaseStudies..May\_2021

Order by started\_at

Alter table Total\_Results Alter column ride\_length time(0)

--Querying the new table

Select \*

From Google\_CaseStudies..Total\_Results

Order by started\_at

--Number of rides by each type of bike

Select rideable\_type, COUNT(rideable\_type) as number\_of\_rides, member\_casual

From Google\_CaseStudies..Total\_Results

Group by rideable\_type, member\_casual

--Number of Rides by customer type

Select member\_casual, COUNT(member\_casual) as number\_of\_rides

From Google\_CaseStudies..Total\_Results

group by member\_casual

--Avg ride length by customer type

Select member\_casual, CAST(DATEADD( ms,AVG(CAST(DATEDIFF( ms, '00:00:00', ISNULL(ride\_length, '00:00:00')) as bigint)), '00:00:00' ) as TIME(0)) as 'avg\_time'

From Google\_CaseStudies..Total\_Results

Group by member\_casual

--average ride\_length for users by day\_of\_week

Select Datename(dw,day\_of\_week) as Day, CAST(DATEADD( ms,AVG(CAST(DATEDIFF( ms, '00:00:00', ISNULL(ride\_length, '00:00:00')) as bigint)), '00:00:00' ) as TIME(0)) as 'avg\_time'

From Google\_CaseStudies..Total\_Results

Group by day\_of\_week

order by avg\_time desc

--mean of ride length

Select Cast(CAST(DATEADD( ms,AVG(CAST(DATEDIFF( ms, '00:00:00', ISNULL(ride\_length, '00:00:00')) as bigint)), '00:00:00' ) as TIME(0)) as nvarchar(50)) as 'avg\_time'

From Google\_CaseStudies..Total\_Results

--mode of day\_of\_week

SELECT Datename(dw,day\_of\_week) as Dayday\_of\_week, COUNT(\*)

FROM Google\_CaseStudies..Total\_Results

GROUP BY day\_of\_week

ORDER BY COUNT(\*) DESC

--Number of rides of members by Month

Select Distinct DATENAME(mm,started\_at) as month, COUNT(started\_at) as number\_of\_rides\_members

From Google\_CaseStudies..Total\_Results

Where member\_casual = 'member'

Group by DATENAME(mm,started\_at)

order by number\_of\_rides\_members

--Number of rides of Casuals by Month

Select Distinct DATENAME(mm,started\_at) as Month, COUNT(started\_at) as number\_of\_rides\_casuals

From Google\_CaseStudies..Total\_Results

Where member\_casual = 'casual'

Group by DATENAME(mm,started\_at)

order by number\_of\_rides\_casuals

--Total number of rides by month

Select Distinct DATENAME(mm,started\_at) as Month, COUNT(started\_at) as number\_of\_rides, member\_casual

From Google\_CaseStudies..Total\_Results

Group by DATENAME(mm,started\_at), member\_casual

order by number\_of\_rides

-- Number pf rides by months and seasons

Select Distinct DATENAME(mm,started\_at) as Month, COUNT(started\_at) as number\_of\_rides, member\_casual,(Case

When DATENAME(mm,started\_at) like 'January' or

DATENAME(mm,started\_at) like 'February' or

DATENAME(mm,started\_at) like 'December' then 'Winter'

When DATENAME(mm,started\_at) like 'March' or

DATENAME(mm,started\_at) like 'April' or

DATENAME(mm,started\_at) like 'May' then 'Spring'

When DATENAME(mm,started\_at) like 'June' or

DATENAME(mm,started\_at) like 'July' or

DATENAME(mm,started\_at) like 'August' then 'Summer'

When DATENAME(mm,started\_at) like 'September' or

DATENAME(mm,started\_at) like 'October' or

DATENAME(mm,started\_at) like 'November' then 'Autumn'

end) as season

From Google\_CaseStudies..Total\_Results

Group by DATENAME(mm,started\_at), member\_casual,(Case

When DATENAME(mm,started\_at) like 'January' or

DATENAME(mm,started\_at) like 'February' or

DATENAME(mm,started\_at) like 'December' then 'Winter'

When DATENAME(mm,started\_at) like 'March' or

DATENAME(mm,started\_at) like 'April' or

DATENAME(mm,started\_at) like 'May' then 'Spring'

When DATENAME(mm,started\_at) like 'June' or

DATENAME(mm,started\_at) like 'July' or

DATENAME(mm,started\_at) like 'August' then 'Summer'

When DATENAME(mm,started\_at) like 'September' or

DATENAME(mm,started\_at) like 'October' or

DATENAME(mm,started\_at) like 'November' then 'Autumn'

end)

order by number\_of\_rides

--Number of rides of members by Day

Select Distinct Datename(dw,day\_of\_week) as Day, COUNT(day\_of\_week) as number\_of\_rides\_members

From Google\_CaseStudies..Total\_Results

Where member\_casual = 'member'

Group by day\_of\_week

Order by day\_of\_week

--Number of rides of casuals by Day

Select Distinct Datename(dw,day\_of\_week) as Day, COUNT(day\_of\_week) as number\_of\_rides\_casuals

From Google\_CaseStudies..Total\_Results

Where member\_casual = 'casual'

Group by day\_of\_week

Order by day\_of\_week

--Total number of rides by day of week

Select Distinct Datename(dw,day\_of\_week) as day\_of\_week, COUNT(day\_of\_week) as number\_of\_rides, member\_casual,(Case

When Cast(started\_at as time(0)) >= '06:00:00' and Cast(started\_at as time(0)) < '12:00:00' Then 'Morning'

When Cast(started\_at as time(0)) >= '12:00:00' and Cast(started\_at as time(0)) < '17:00:00' Then 'Afternoon'

When Cast(started\_at as time(0)) >= '17:00:00' and Cast(started\_at as time(0)) < '20:00:00' Then 'Evening'

Else 'Night'

End) as time\_of\_day

From Google\_CaseStudies..Total\_Results

Group by day\_of\_week, member\_casual,(Case

When Cast(started\_at as time(0)) >= '06:00:00' and Cast(started\_at as time(0)) < '12:00:00' Then 'Morning'

When Cast(started\_at as time(0)) >= '12:00:00' and Cast(started\_at as time(0)) < '17:00:00' Then 'Afternoon'

When Cast(started\_at as time(0)) >= '17:00:00' and Cast(started\_at as time(0)) < '20:00:00' Then 'Evening'

Else 'Night'

End)

Order by day\_of\_week

--Number of rides by Weekday/ Weekend

Select Distinct Datename(dw,day\_of\_week) as day\_of\_week, COUNT(day\_of\_week) as number\_of\_rides,(Case

When Datename(dw,day\_of\_week) = 'Saturday' or Datename(dw,day\_of\_week) = 'Sunday' then 'Weekend'

Else 'Weekday'

end) as Weekday\_Weekend

From Google\_CaseStudies..Total\_Results

Group by day\_of\_week, member\_casual,(Case

When Datename(dw,day\_of\_week) = 'Saturday' or Datename(dw,day\_of\_week) = 'Sunday' then 'Weekend'

Else 'Weekday'

end)

Order by day\_of\_week

--Number of rides by casual riders by day of the week

Select Distinct Datename(dw,day\_of\_week) as day\_of\_week, COUNT(day\_of\_week) as number\_of\_rides

From Google\_CaseStudies..Total\_Results

Where member\_casual = 'casual'

Group by day\_of\_week

Order by day\_of\_week

--Number of rides by month and time of the day(Morning, Afternoon, Evening, Night) and avg time

Select Distinct DATENAME(mm,started\_at) as month,

(Case

When Cast(started\_at as time(0)) >= '06:00:00' and Cast(started\_at as time(0)) < '12:00:00' Then 'Morning'

When Cast(started\_at as time(0)) >= '12:00:00' and Cast(started\_at as time(0)) < '17:00:00' Then 'Afternoon'

When Cast(started\_at as time(0)) >= '17:00:00' and Cast(started\_at as time(0)) < '20:00:00' Then 'Evening'

Else 'Night'

End) as time\_of\_day, COUNT(started\_at) as num\_of\_trips, Cast(CAST(DATEADD( ms,AVG(CAST(DATEDIFF( ms, '00:00:00', ISNULL(ride\_length, '00:00:00')) as bigint)), '00:00:00' ) as TIME(0)) as varchar(50)) as 'avg\_time', member\_casual

From Google\_CaseStudies..Total\_Results

Group by (Case

When Cast(started\_at as time(0)) >= '06:00:00' and Cast(started\_at as time(0)) < '12:00:00' Then 'Morning'

When Cast(started\_at as time(0)) >= '12:00:00' and Cast(started\_at as time(0)) < '17:00:00' Then 'Afternoon'

When Cast(started\_at as time(0)) >= '17:00:00' and Cast(started\_at as time(0)) < '20:00:00' Then 'Evening'

Else 'Night'

End), DATENAME(mm,started\_at), member\_casual

Order by month,num\_of\_trips desc

--Number of rides: casual riders by station name

Select Distinct start\_station\_name as station\_name, COUNT(start\_station\_name) as num\_of\_trips\_started, COUNT(end\_station\_name) as num\_of\_trips\_ended, member\_casual

From Google\_CaseStudies..Total\_Results

Group by start\_station\_name, member\_casual

order by num\_of\_trips\_started desc, num\_of\_trips\_ended desc

-- Number of rides: time of the day

Select DATEPART(HOUR, started\_at) as Hour, COUNT(started\_at) as num\_of\_trips, member\_casual

From Google\_CaseStudies..Total\_Results

Group by DATEPART(HOUR, started\_at), member\_casual

Order by Hour