

-- 1. Which manufacturer's planes had most no of flights? And how many flights?
-- ** This approach does not account for flights that have missing or incorrect tail number information, and may give different results than counting the actual number of flights operated by each manufacturer.

```
select top 1 pl.manufacturer, count(*) as total_flights from  
flights as fl join planes as pl on fl.tailnum=pl.tailnum  
group by pl.manufacturer order by 2 desc;
```

The screenshot shows the Microsoft SQL Server Management Studio interface. The query editor contains the following SQL code:

```
1 -- 1. Which manufacturer's planes had most no of flights? And how many flights?  
2 -- ** This approach does not account for flights that have missing or incorrect ta  
3  
4 select pl.manufacturer, count(*) as total_flights from  
5 flights as fl join planes as pl on fl.tailnum=pl.tailnum  
6 group by pl.manufacturer order by 2 desc;  
7  
8
```

The Results pane displays the following data:

manufacturer	total_flights
1 BOEING	1103
2 EMBRAER	816
3 AIRBUS	696
4 AIRBUS INDUSTRIE	516
5 BOMBARDIER INC	288
6 MCDONNELL DOUGLAS AIRCRAFT CO	121
7 MCDONNELL DOUGLAS	56
8 CESSNA	17
9 CANADAIR	17
10 MCDONNELL DOUGLAS CORPORATI...	12
11 GULFSTREAM AEROSPACE	12
12 CIRRUS DESIGN CORP	8
13 BARKER JACK L	4
14 FRIEDEMANN JON	3
15 ROBINSON HELICOPTER CO	3

The screenshot shows the same Microsoft SQL Server Management Studio interface. The query editor contains the same SQL code as the previous screenshot:

```
1 -- 1. Which manufacturer's planes had most no of flights? And how many flights?  
2 -- ** This approach does not account for flights that have missing or incorrect ta  
3  
4 select top 1 pl.manufacturer, count(*) as total_flights from  
5 flights as fl join planes as pl on fl.tailnum=pl.tailnum  
6 group by pl.manufacturer order by 2 desc;  
7  
8
```

The Results pane displays only the top result:

manufacturer	total_flights
1 BOEING	1103

The status bar at the bottom indicates: "Query executed successfully. DESKTOP-3FR9GEG (16.0 RTM) DESKTOP-3FR9GEG\karan ... revolve 00:00:00 1 rows".

--2.Which manufacturer's planes had most no of flying hours? And how many hours?
--** does not count record which have null and text to int

```
select top 1 pl.manufacturer,sum(cast(fl.air_time as int)) as total_flying_hours
from flights fl JOIN planes pl on fl.tailnum = pl.tailnum
where fl.air_time <> 'na'
group by pl.manufacturer order by 2 desc;
```

The screenshot shows the Microsoft SQL Server Management Studio interface. The query editor displays the following SQL query:

```
--2.Which manufacturer's planes had most no of flying hours? And how many hours?
--** does not count record which have null and text to int

select pl.manufacturer,sum(cast(fl.air_time as int)) as total_flying_hours
from flights fl JOIN planes pl on fl.tailnum = pl.tailnum
where fl.air_time <> 'na'
group by pl.manufacturer order by 2 desc;
```

The query results are displayed in the Results pane, showing a table with two columns: manufacturer and total_flying_hours. The results are ordered by total_flying_hours in descending order.

manufacturer	total_flying_hours
1 BOEING	236463
2 AIRBUS	136283
3 AIRBUS INDUSTRIE	84157
4 EMBRAER	77325
5 BOMBARDIER INC	24197
6 MCDONNELL DOUGLAS AIRCRAFT CO	17394
7 MCDONNELL DOUGLAS	9088
8 MCDONNELL DOUGLAS CORPORATION	1651
9 GULFSTREAM AEROSPACE	1624
10 CESSNA	1591
11 CIRRUS DESIGN CORP	1251
12 CANADAIIR	796
13 BARKER JACK L	667
14 ROBINSON HELICOPTER CO	593
15 FRIEDEMANN JON	460

The status bar at the bottom indicates that the query was executed successfully, returning 22 rows in 00:00:00 seconds.

Top 1

The screenshot shows the Microsoft SQL Server Management Studio interface. The title bar indicates the file is 'SQLQuery7.sql - DESKTOP-3FR9GEG.revolve (DESKTOP-3FR9GEG\karan (52))'. The menu bar includes File, Edit, View, Query, Project, Tools, Window, and Help. The toolbar contains various icons for file operations, query execution, and formatting. The Object Explorer on the left shows a tree view of the database structure, including Databases, System Databases, Database Snapshots, ankit_bansal, revolve, Database Diagrams, Tables, System Tables, FileTables, External Tables, Graph Tables, dbo.airlines, dbo.airports, dbo.flights, and dbo.planes. The main query editor displays the following SQL code:

```
--2.Which manufacturer's planes had most no of flying hours? And how many hours?
--** does not count record which have null and text to int
select top 1 pl.manufacturer,sum(cast(fl.air time as int)) as total_flying_hours
from flights fl JOIN planes pl on fl.tailnum = pl.tailnum
where fl.air time <> 'na'
group by pl.manufacturer order by 2 desc;
```

The Results pane at the bottom shows the output of the query:

manufacturer	total_flying_hours
1 BOEING	236463

The status bar at the bottom indicates 'Query executed successfully.' and 'DESKTOP-3FR9GEG (16.0 RTM) DESKTOP-3FR9GEG\karan ... revolve 00:00:00 1 rows'.

--Which plane flew the most number of hours? And how many hours?

-- 1 approach

```
select top 1 tailnum,sum(cast(air_time as int)) as
total_flying_hours from flights
where air_time<>'na' group by tailnum order by 2 desc;
```

--2 approach

```
SELECT top 1 tailnum, SUM(CASE WHEN ISNUMERIC(air_time) = 1 THEN CAST(air_time AS
FLOAT) ELSE 0 END) AS total_flying_hours
FROM flights
GROUP BY tailnum
ORDER BY 2 DESC
```

SQLQuery7.sql - DESKTOP-3FR9GEG.revolve (DESKTOP-3FR9GEG\karan (52)) - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

Object Explorer

- Databases
 - System Databases
 - Database Snapshots
 - ankit_bansal
 - revolve
 - Database Diagrams
 - Tables
 - System Tables
 - FileTables
 - External Tables
 - Graph Tables
 - dbo.airlines
 - dbo.airports
 - dbo.flights
 - dbo.planes
 - Views
 - External Resources
 - Synonyms
 - Programmability
 - Query Store
 - Service Broker
 - Storage
 - Security
 - test

SQLQuery7.sql - DE...FR9GEG\karan (52))

```
15 group by pl.manufacturer order by 2 desc;
16
17 --Which plane flew the most number of hours? And how many hours?
18 -- 1 approach
19 select tailnum,sum(cast(air_time as int)) as
20 total_flying_hours from flights
21 where air_time <> 'na' group by tailnum order by 2 desc;
22
```

Results

	tailnum	total_flying_hours
1	N322AA	2038
2	N727TW	2019
3	N512UA	2009
4	N705TW	2008
5	N711ZX	2005
6	N517UA	2004
7	N336AA	2002
8	N804JB	1994
9	N323AA	1983
10	N380HA	1913
11	N652JB	1886
12	N76065	1879
13	N338AA	1802
14	N324AA	1760
15	N723TW	1739

Query executed successfully. DESKTOP-3FR9GEG (16.0 RTM) DESKTOP-3FR9GEG\karan ... revolve 00:00:00 1,739 rows

SQLQuery7.sql - DESKTOP-3FR9GEG.revolve (DESKTOP-3FR9GEG\karan (52)) - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

Object Explorer

- Databases
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SQLQuery7.sql - DE...FR9GEG\karan (52))

```
15 group by pl.manufacturer order by 2 desc;
16
17 --Which plane flew the most number of hours? And how many hours?
18 -- 1 approach
19 select top 1 tailnum,sum(cast(air_time as int)) as
20 total_flying_hours from flights
21 where air_time <> 'na' group by tailnum order by 2 desc;
22
```

Results

	tailnum	total_flying_hours
1	N322AA	2038

Query executed successfully. DESKTOP-3FR9GEG (16.0 RTM) DESKTOP-3FR9GEG\karan ... revolve 00:00:00 1 rows

-- 4.Which destination had most delay in flights?
-- case 1 -> only considering postive value -> delayed flight not early flights.

```

with cte as (
select top 1 dest,count(*) as most_delay from flights
where arr_delay <> 'na' and arr_delay>0
group by dest order by 2 desc
)

```

The screenshot shows the Microsoft SQL Server Management Studio interface. The query editor displays a SQL query that identifies the destination with the highest number of delayed flights. The query is as follows:

```

31 -- case 1 -> only considering positive value -> delayed flight not early flights.
32 with cte as (
33 select top 1 dest,count(*) as most_delay from flights
34 where arr_delay <> 'na' and arr_delay>0
35 group by dest order by 2 desc
36 )
37
38 select cte.* airports.city,airports.airport from cte join airports on cte.dest=air

```

The query has been executed successfully, and the results are shown in the Results pane. The results table has four columns: dest, most_delay, city, and airport. The single row of data is as follows:

dest	most_delay	city	airport
ATL	113	Atlanta	Hartsfield-Jackson Atlanta International Airport

The status bar at the bottom indicates that the query was executed successfully, returning 1 row.

Which manufacturers planes had covered most distance? And how much distance?

```

select top 1 pl.manufacturer,sum(fl.distance) as total_distance_covered
from flights as fl
join
planes as pl on fl.tailnum=pl.tailnum
group by pl.manufacturer order by 2 desc;

```

The screenshot shows the Microsoft SQL Server Management Studio interface. The Object Explorer on the left displays the database structure, including tables like `dbo.airlines`, `dbo.airports`, `dbo.flights`, and `dbo.planes`. The main query window shows the following SQL code:

```

40
41 --5.Which manufactures planes had covered most distance? And how much distance?
42 select top 1 pl.manufacturer, sum(fl.distance) as total_distance_covered
43 from flights as fl
44 join
45 planes as pl on fl.tailnum=pl.tailnum
46 group by pl.manufacturer order by 2 desc;
47

```

The Results pane below the query shows the output of the query:

manufacturer	total_distance_covered
1 BOEING	1644180

The status bar at the bottom indicates that the query was executed successfully, returning 1 row.

Which airport had most flights on weekends?

```

with cte as(
select *, DATENAME(dw, DATEFROMPARTS(year, month, day)) as day_name from flights
),
ct2 as (
select origin, count(*) as week_end_flights from
cte where day_name in ('saturday', 'sunday')
group by
origin
)
select top 1* from ct2 join airports ap on ct2.origin=ap.iata_code order by
week_end_flights desc;

```

SQLQuery7.sql - DESKTOP-3FR9GEG.revolve (DESKTOP-3FR9GEG\karan (52))* - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

Connect | revolve | Execute | flights_copy_2

Object Explorer

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 - test

SQLQuery7.sql - DE...FR9GEG\karan (52))*

```
47
48
49 --6. Which airport had most flights on weekends?
50 with cte as (
51 select *, DATEName(dw, DATEFROMPARTS(year, month, day)) as day_name from flights
52 )
53 ct2 as (
54 select origin, count(*) as week_end_flights from
```

100 %

Results Messages

	origin	week_end_flights	IATA_CODE	AIRPORT	CITY	STATE	COUNTRY	LATITUDE	LONGITUDE
1	JFK	325	JFK	John F. Kennedy International Airport (New York ...	New York	NY	USA	40.63975	-73.77893

Query executed successfully. DESKTOP-3FR9GEG (16.0 RTM) DESKTOP-3FR9GEG\karan ... revolve 00:00:00 1 rows

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