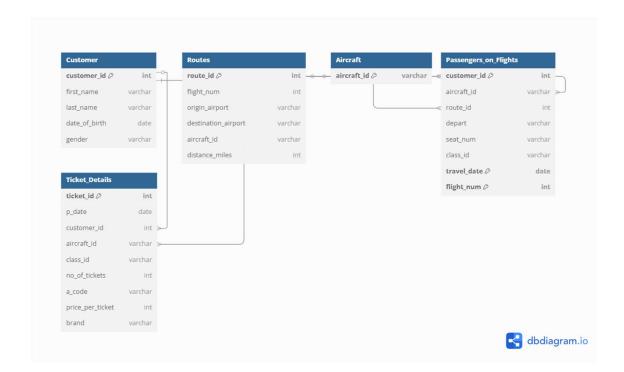
Task 1st Create a database named AirCargo and import ticket_details.csv, routes.csv, passengers_on_flights.csv, and customer.csv from the given resources into it

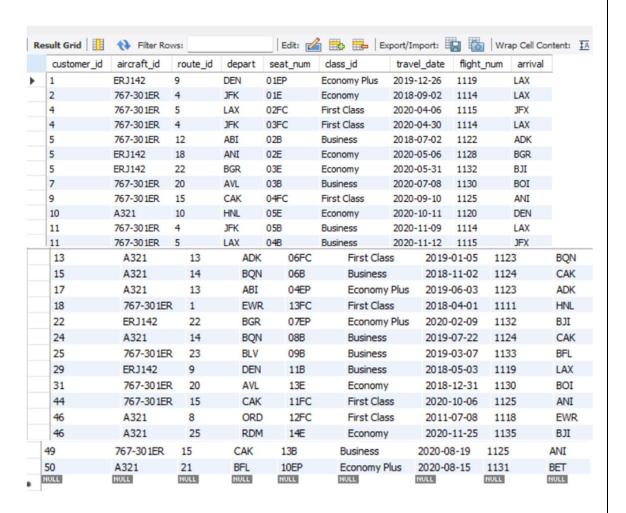


Task 2nd Create an ER diagram for the given airlines' database.



Task 3rd Write a query to display all the passengers who have traveled on routes 01 to 25 from the passengers_on_flights table.

Select *
from passengers_on_flights
where route_id between 01 and 25;



Task 4th Write a query to identify the number of passengers and total revenue in business class from the ticket_details table.

Task 5th Write a query to display the full name of the customer by extracting the first name and last name from the customer table.

```
Select customer_id, concat(first_name,' ',last_name) AS Full_Name
from customer;
```

R	esult Grid	Filter Rows:
	customer_id	Full_Name
١	1	Julie Sam
	2	Steve Ryan
	3	Morris Lois
	4	Cathenna Emily
	5	Aaron Kim
	6	Alexander Scot
	7	Anderson Stewart
	8	Floyd Ted
	9	Leo Travis
	10	Melvin Tracy
	11	Roger Walson
	12	Shirley Wally

13	Solomon Walter
14	Carol Vernon
15	Linda William
16	Chirstine Willis
17	Catherine Shad
18	Gloria Richie
19	Joyce Paul
20	Sara Oliver
21	Chirsty Josh
22	Pheny Eri
23	Erwin Tosh
24	Calvin Willis
25	Moss Morris
26	Bryan Collin
27	Cherly Vernon
28	Du plesis Chris
29	Watson Ronald
30	Donack Dukins
31	James Robert
32	Chirstoper Sean
33	Mark Ethan
34	Jacqueline Keith
35	Jeffrey Aaron
36	Kayla Patrick
37	Samuel Scott
38	Alexis Scott
39	Tyler Edward
40	Adam Paul
41	Kyle Mark
42	Roger Mattew
43	Joe Daniel
44	Bily Brian
45	Doris Walter
46	Louis Douglas
47	Sophia Carl
48	Wayne Noah
49	Russell Peter
50	Rose Arthur

Task 6th Write a query to extract the customers who have registered and booked a ticket from the customer and ticket_details tables.

```
Select c.customer_id, c.first_name, c.last_name
from customer c
JOIN ticket_details t ON c.customer_id = t.customer_id;
```

Re	esult Grid	Filter Ro	ows:
	customer_id	first_name	last_name
F	1	Julie	Sam
	1	Julie	Sam
	2	Steve	Ryan
	2	Steve	Ryan
	4	Cathenna	Emily
	4	Cathenna	Emily
	5	Aaron	Kim
	5	Aaron	Kim
	5	Aaron	Kim
	7	Anderson	Stewart
	8	Floyd	Ted
	8	Floyd	Ted
	9	Leo	Travis
	9	Leo	Travis
	10	Melvin	Tracy
	11	Roger	Walson
	11	Roger	Walson
	11	Roger	Walson
	13	Solomon	Walter
	14	Carol	Vernon
	14	Carol	Vernon
	15	Linda	William
	16	Chirstine	Willis
	17	Catherine	Shad
	18	Gloria	Richie
	18	Gloria	Richie
	19	Joyce	Paul
	19	Joyce	Paul
	19	Joyce	Paul
	20	Sara	Oliver
	20	Sara	Oliver
	21	Chirsty	Josh
	22	Pheny	Eri
	24	Calvin	Willis
	25	Moss	Morris
	25	Moss	Morris

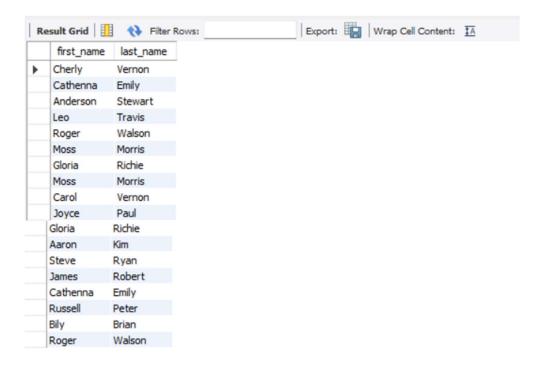
27	Cherly	Vernon
28	Du plesis	Chris
29	Watson	Ronald
29	Watson	Ronald
31	James	Robert
32	Chirstoper	Sean
33	Mark	Ethan
41	Kyle	Mark
44	Bily	Brian
46	Louis	Douglas
46	Louis	Douglas
47	Sophia	Carl
49	Russell	Peter
50	Rose	Arthur



Task 7th Write a query to identify the customer's first name and last name based on their customer ID and brand (Emirates) from the ticket_details table.

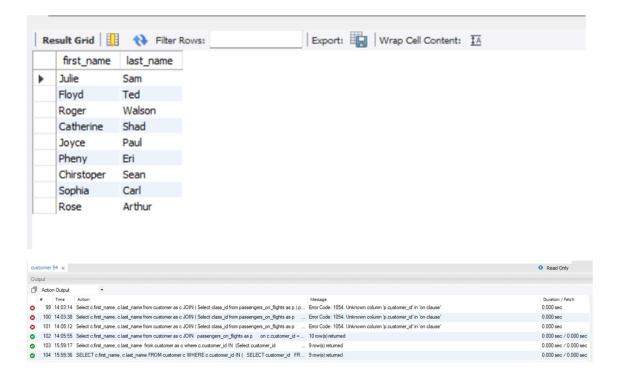
```
Select c.first_name, c.last_name
from customer as c

JOIN ticket_details t
ON c.customer_id= t.customer_id
where brand = 'Emirates';
```





Task 8th Write a query to identify the customers who have traveled by Economy Plus class using the sub-query on the passengers_on_flights table.



Write a query to determine whether the revenue has crossed 10000 using the IF clause on the ticket_details table.

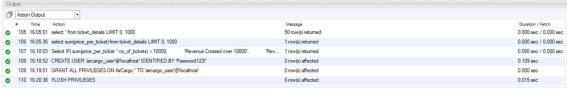
```
⊖ Select IF(
               sum(price_per_ticket * no_of_tickets) > 10000,
               'Revenue Crossed over 10000',
               'Revenue Not Croeesed over 10000'
           ) AS revenue_status
   from ticket_details;
                                       Export: Wrap Cell Content: IA
  revenue_status
   Revenue Crossed over 10000
```

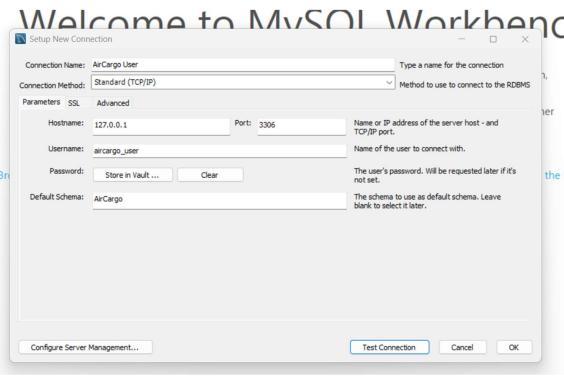
Task 10th Write a query to create and grant access to a new user to perform database operations

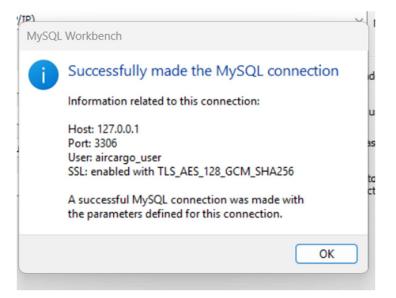
CREATE USER 'aircargo_user'@'localhost' IDENTIFIED BY 'Password123!';

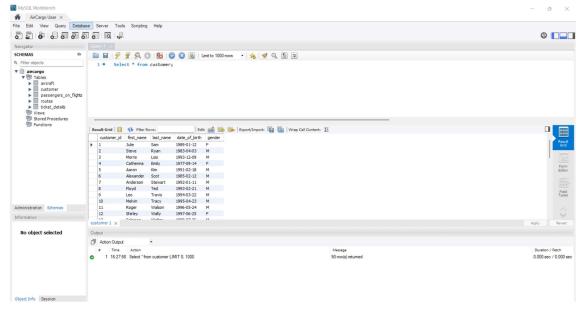
GRANT ALL PRIVILEGES ON AirCargo.* TO 'aircargo_user'@'localhost';

FLUSH PRIVILEGES;





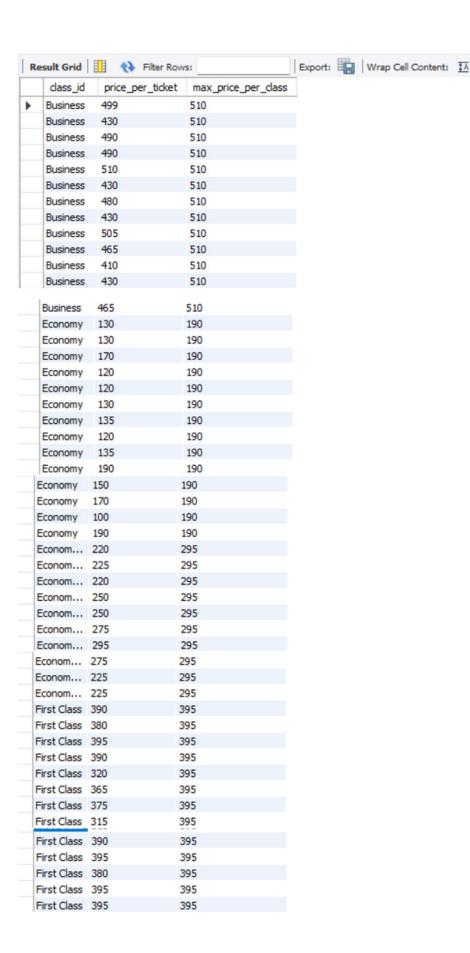




Task 11th Write a query to find the maximum ticket price for each class using window functions on the ticket_details table.

SELECT

```
class_id,
price_per_ticket,
MAX(price_per_ticket) OVER (PARTITION BY class_id) AS max_price_per_class
FROM ticket_details;
```



Task 12th Write a query to extract the passengers whose route ID is 4 by improving the speed and performance of the passengers_on_flights table using the index.

```
CREATE INDEX idx_route_id ON passengers_on_flights(route_id);

SELECT *

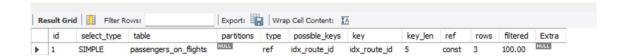
FROM passengers_on_flights

WHERE route_id = 4;
```

R.	esult Grid	C Filter K	OWS:		Edit:	HG2 HG	Export/Import		Wrap Cell Conter
	customer_id	aircraft_id	route_id	depart	seat_num	dass_id	travel_date	flight_num	arrival
١	2	767-301ER	4	JFK	01E	Economy	2018-09-02	1114	LAX
	4	767-301ER	4	JFK	03FC	First Class	2020-04-30	1114	LAX
	11	767-301ER	4	JFK	05B	Business	2020-11-09	1114	LAX
	NULL	HULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

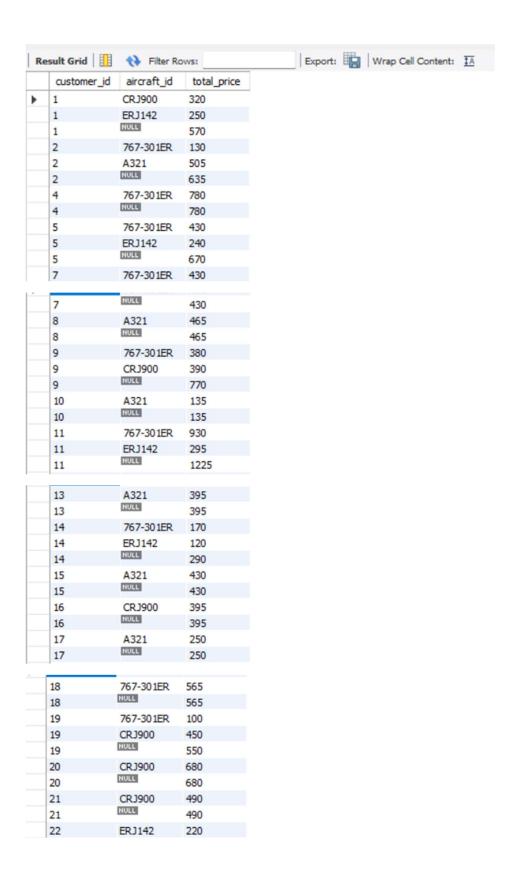
Task 13th For route ID 4, write a query to view the execution plan of the passengers_on_flights table.

Explain select * from passengers_on_flights where route_id = 4;



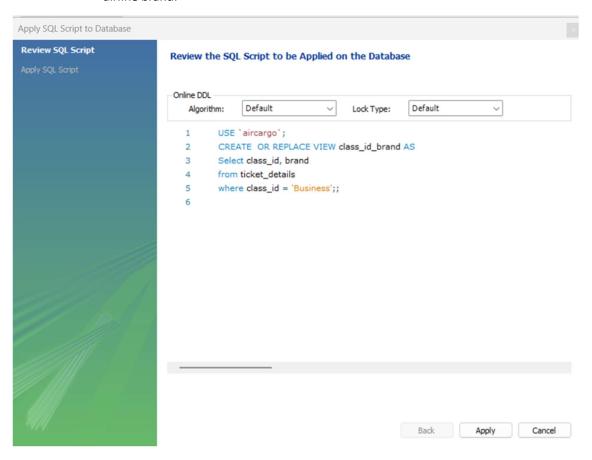
Task 14th Write a query to calculate the total price of all tickets booked by a customer across different aircraft IDs using the rollup function.

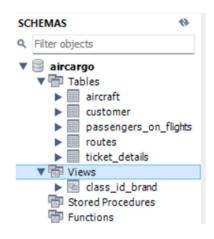
```
Select customer_id, aircraft_id, SUM(price_per_ticket * no_of_tickets) AS total_price
from ticket_details
group by customer_id, aircraft_id with rollup;
```



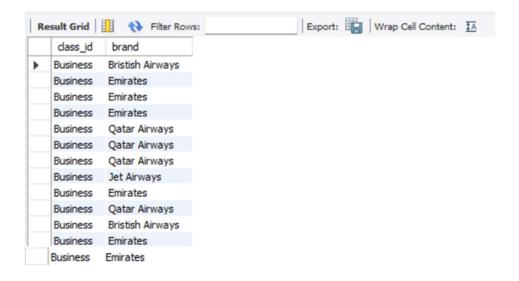
22	NULL	220
24	A321	480
24	NULL	480
25	767-301ER	649
25	NULL	649
27	767-301ER	130
27	NULL	130
28	ERJ142	170
28	NULL	170
29	A321	410
29	ERJ142	510
29	NULL	920
31	767-301ER	130
31	NULL	130
32	ERJ142	220
32	NULL	220
33	CRJ900	490
33	NULL	490
41	A321	395
41	NULL	395
44	767-301ER	380
44	NULL	380
46	A321	530
46	NULL	530
47	CRJ900	225
47	NULL	225
49	767-301ER	430
49	HULL	430
50	A321	275
50	NULL	275
NULL	NULL	15369

Task 15th Write a query to create a view with only business class customers and the airline brand.





Select * from class_id_brand;





Task 16th Write a query to create a stored procedure that extracts all the details from the routes table where the traveled distance is more than 2000 miles.

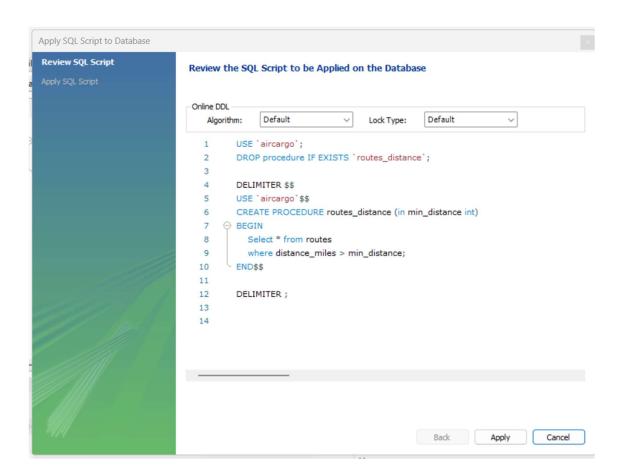
```
CREATE PROCEDURE routes_distance (in min_distance int)

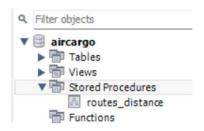
BEGIN

Select * from routes

where distance_miles > min_distance;

END
```





call routes_distance(2000);

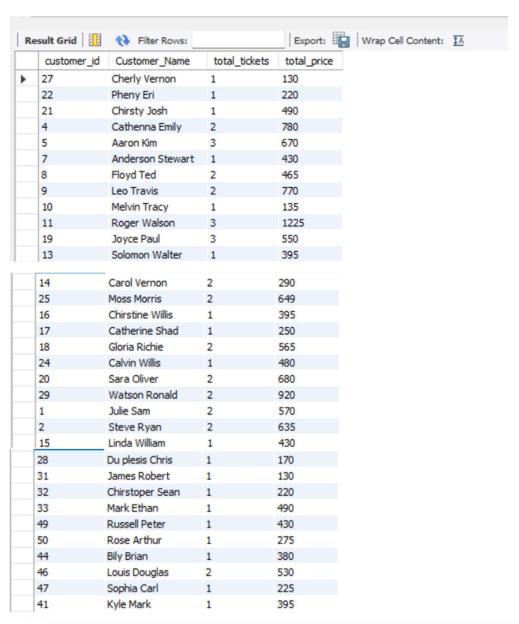
	route_id	flight_num	origin_airport	destination_airport	aircraft_id	dist	tance_miles
•	1	1111	EWR	HNL	767-301ER	496	2
	2	1112	HNL	EWR	767-301ER	496	2
	3	1113	EWR	LHR	A321	346	6
	4	1114	JFK	LAX	767-301ER	247	5
	5	1115	LAX	JFK	767-301ER	247	5
	6	1116	HNL	LAX	767-301ER	255	6
	10	1120	HNL	DEN	A321	336	5
	12	1122	ABI	ADK	767-301ER	430	0
	13	1123	ADK	BQN	A321	223	2
	14	1124	BQN	CAK	A321	244	5
	18	1128	ANI	BGR	ERJ142	245	0
	19	1129	ATW	AVL	A321	222	2
	20	1130	AVL	BOI	767-30	1ER	3134
:	21	1131	BFL	BET	A321		2425
	23	1133	BLV	BFL	767-30	1ER	2354
1	25	1135	RDM	BJI	A321		2425
2	34	1144	CRW	COD	A321		2452
3	35	1145	STT	CDB	ERJ142		2121
4	43	1153	CBM	BOI	A321		8989
4	44	1154	COU	CAK	767-30	1ER	7676
	46	1156	CDV	HNL	767-30	1ER	8668
-	48	1158	SCC	DEN	A321		5645
-	49	1159	DEC	ABI	A321		4533
-		1160					
5	0	1160	DRT	ORD	A321		2445

Re	sult 4	×			Read Only
Ou	tput :				
a	Actio	ion Output	•		
		Time	Action	Message	Duration / Fetch
0	2	2 11:22:42	Select * from routes where distance_miles > 2000 LIMIT 0, 1000	24 row(s) returned	0.016 sec / 0.000 sec
0	3	3 11:51:55	Apply changes to routes_distance	Changes applied	
0	4	4 11:53:34	call routes_distance(2000)	24 row(s) returned	0.000 sec / 0.000 sec
0	5	5 11:53:50	call routes_distance(3000)	11 row(s) returned	0.000 sec / 0.000 sec
0	6	6 11:53:59	call routes_distance(4000)	8 row(s) returned	0.016 sec / 0.000 sec
0	7	7 11:54:09	call routes_distance(2000)	24 row(s) returned	0.016 sec / 0.000 sec

Task 17th Using GROUP BY, determine the total number of tickets purchased by each customer and the total price paid.

```
Select c.customer_id, concat(c.first_name, ' ', last_name) as Customer_Name,
sum(t.no_of_tickets) as total_tickets,
sum(t.no_of_tickets * t.price_per_ticket) as total_price
from ticket_details as t

JOIN customer as c
on t.customer_id = c.customer_id
group by
c.customer_id, concat(c.first_name, ' ', last_name);
```



Re	ult 17	×			Read Only
Ou	put :::				
đ	Actio	n Output	•		
		Time	Action	Message	Duration / Fetch
0	20	12:14:28	Select customer_id, concat(first_name, '', last_name) as Customer_Name from customer LIMIT 0, 1000	50 row(s) returned	0.015 sec / 0.000 sec
0	21	12:18:28	$Select\ c.customer_id,\ c.concat(first_name, ``, last_name)\ as\ Customer_Name,\ sum(t.no_of_tickets)\ as\ total_tic$	Error Code: 1305. FUNCTION c.concat does not exist	0.000 sec
0	22	12:19:37	$Select\ c.customer_id,\ concat(c.first_name, '', last_name)\ as\ Customer_Name,\ sum(t.no_of_tickets)\ as\ total_tic$	33 row(s) returned	0.000 sec / 0.000 sec
0	23	12:20:22	$Select\ c.customer_id,\ concat(c.first_name,\ '\ ', last_name)\ as\ Customer_Name,\ sum(t.no_of_tickets)\ as\ total_tic$	33 row(s) returned	0.000 sec / 0.000 sec
0	24	12:20:46	$Select\ c.customer_id,\ concat(c.first_name,\ '\ ', last_name)\ as\ Customer_Name,\ sum(t.no_of_tickets)\ as\ total_tic$	33 row(s) returned	0.000 sec / 0.000 sec
0	25	12:21:23	$Select\ c.customer_id,\ concat(c.first_name, ``, last_name)\ as\ Customer_Name,\ sum(t.no_of_tickets)\ as\ total_tic$	33 row(s) returned	0.000 sec / 0.000 sec

Task 18th Calculate the average number of passengers per flight route.

```
select route_id, COUNT(*) / COUNT(DISTINCT travel_date) AS avg_passengers_per_day
FROM passengers_on_flights
GROUP BY route_id;
```

route_id	avg_passengers_per_day		
1	1.0000		
4	1.0000		
5	1.0000		
8	1.0000		
9	1.0000		
10	1.0000		
12	1.0000		
13	1.0000		
14	1.0000		
15	1.0000		
18	1.0000		
20	1.0000		
1	1.0000		
2	1.0000		
3	1.0000		
5	1.0000		
5	1.0000		
)	1.0000		
1	1.0000		
2	1.0000		
3	1.0000		
4	1.0000		
5	1.0000		
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	1.0000		

Resu	ılt 26	×			Read Onli
Outp	ut :				
đ	Action	Output	•		
		Time	Action	Message	Duration / Fetch
9	29	12:30:57	Select *from passengers_on_flights LIMIT 0, 1000	50 row(s) returned	0.000 sec / 0.000 sec
9	30	12:32:49	${\sf SELECT_route_id}, \ \ {\sf COUNT(")/COUNT(DISTINCT travel_date)} \ {\sf AS\ avg_passengers_per_day\ FROM\ passe}$	32 row(s) returned	0.000 sec / 0.000 sec
9	31	12:33:19	$select\ route_id,\ COUNT(")\ /\ COUNT(DISTINCT\ travel_date)\ AS\ avg_passengers_per_day\ FROM\ passengers$	32 row(s) returned	0.000 sec / 0.000 sec
9	32	12:33:41	SELECT SUM(passenger_count) / COUNT(*) AS overall_avg_passengers_per_route FROM (SELECT rout	1 row(s) returned	0.000 sec / 0.000 sec
9	33	12:35:54	select route_id, COUNT(") / COUNT(DISTINCT travel_date) AS avg_passengers_per_day FROM passengers	32 row(s) returned	0.000 sec / 0.000 sec
9	34	12:37:25	select route_id, COUNT(") / COUNT(DISTINCT travel_date) AS avg_passengers_per_day FROM passengers	32 row(s) returned	0.000 sec / 0.000 sec



