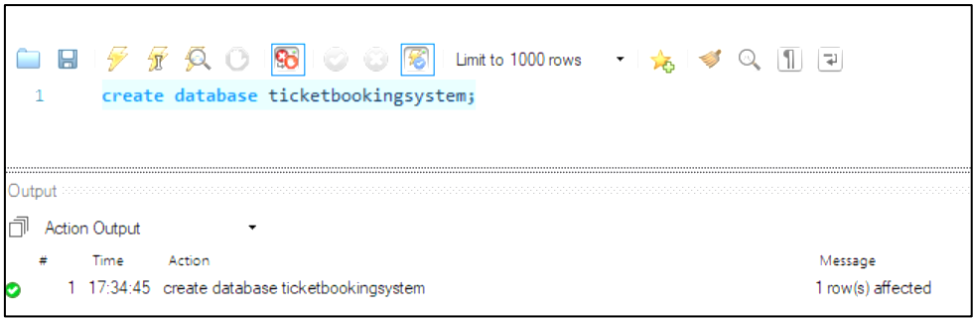
Assignment

Ticket Booking System

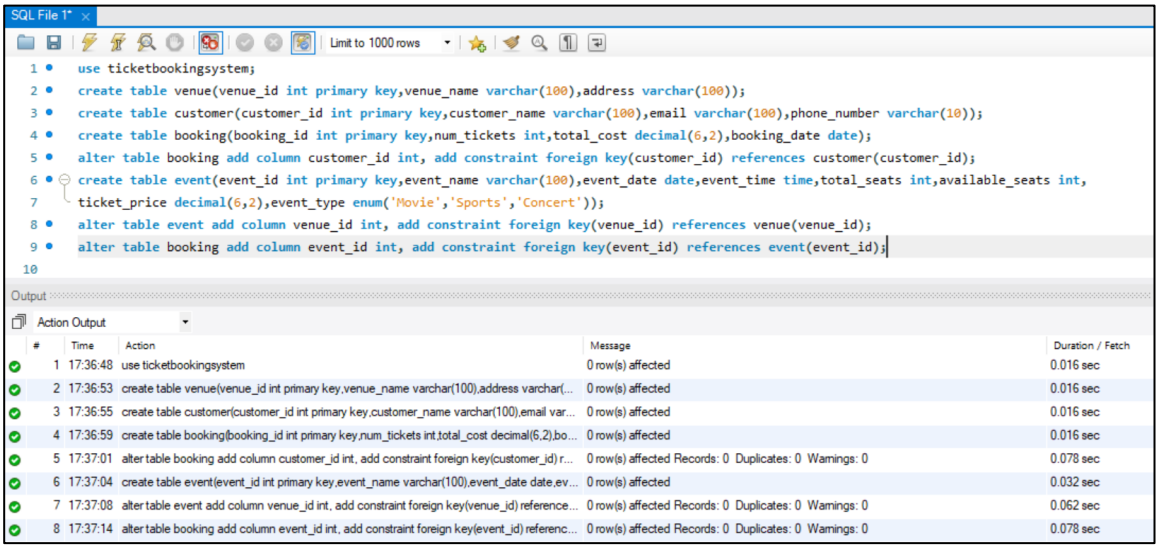
Table name	Field	Key
Venue table	venue_id	primary
	venue_name	
	address	
Event table	event_id	primary
	event_name	
	event_date	
	event_time	
	venue_id	foreign
	total_seats	
	available_seats	
	ticket_price	
	event_type	
Customer table	customer_id	primary
	customer_name	
	email	
	phone_number	
Booking table	booking_id	primary
	customer_id	foreign
	event_id	foreign
	num_tickets	
	total_cost	
	booking_date	

Tasks 1: Database Design:

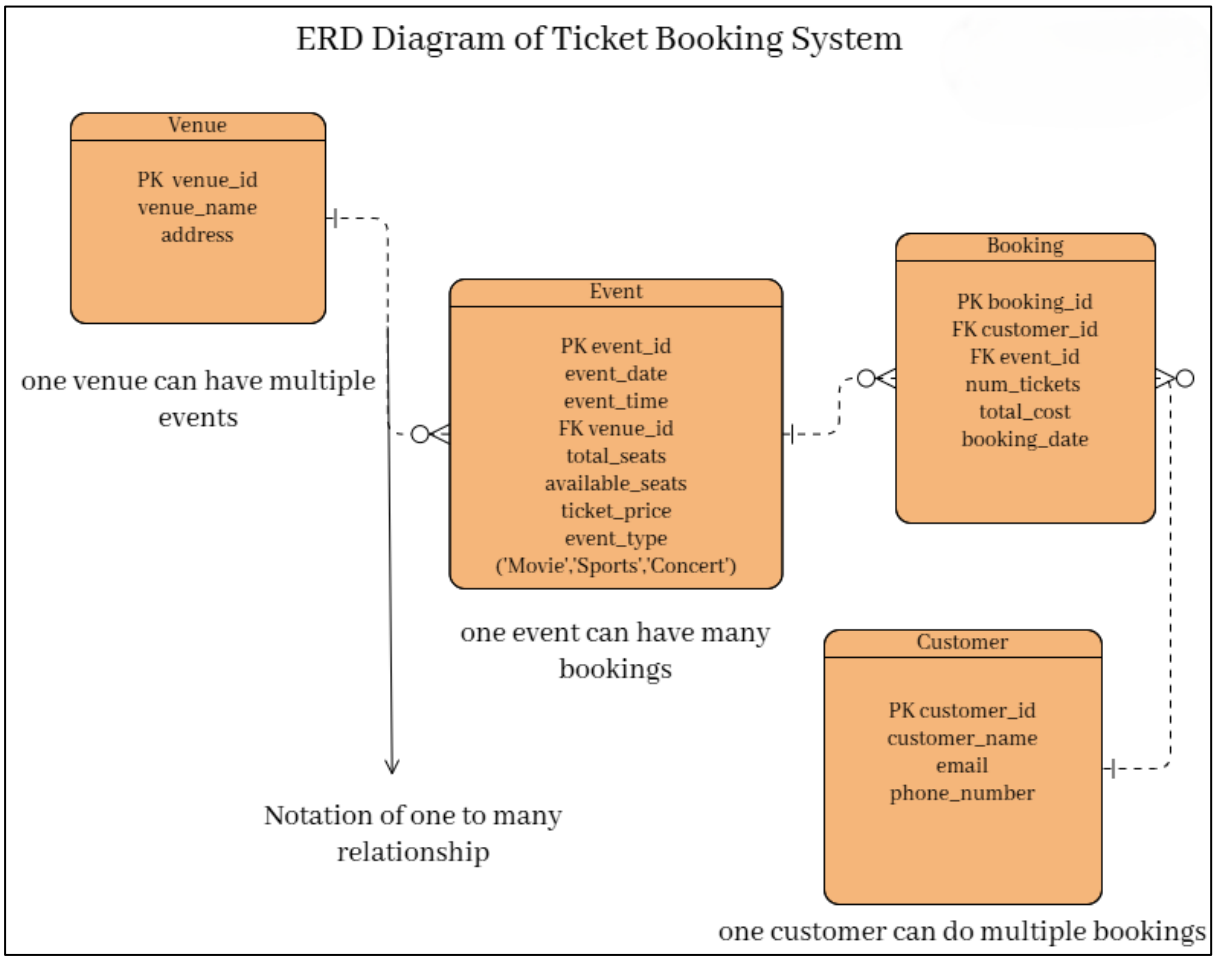
1. Create the database named "TicketBookingSystem"



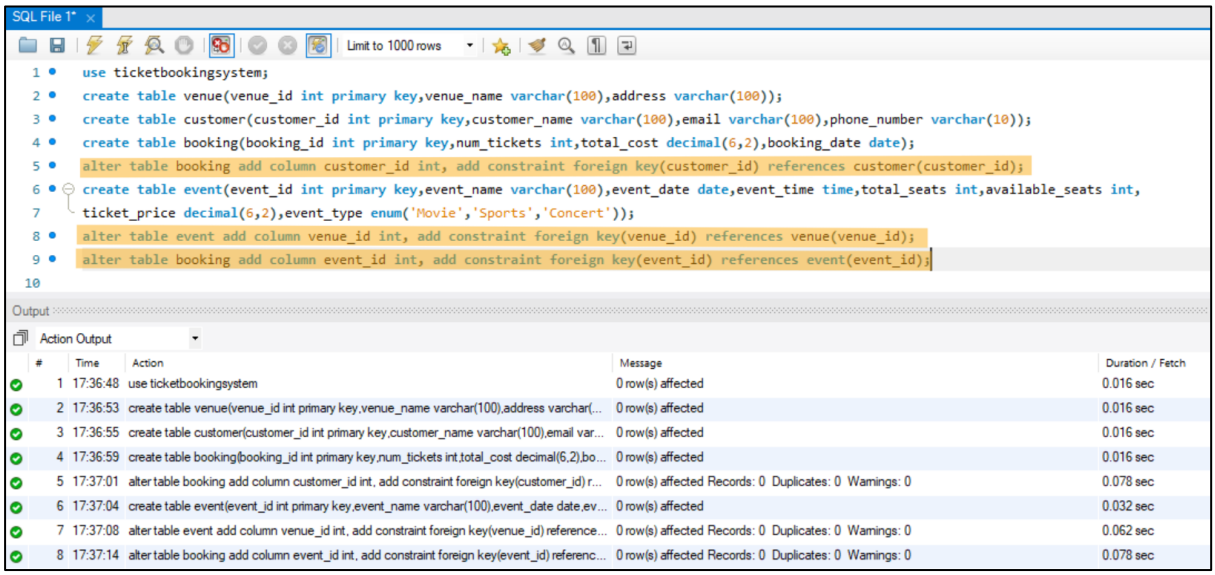
2. Write SQL scripts to create the mentioned tables with appropriate data types, constraints, and relationships. • Venu • Event • Customers • Booking



3. Create an ERD (Entity Relationship Diagram) for the database.



4.Create appropriate Primary Key and Foreign Key constraints for referential integrity.



Tasks 2: Select, Where, Between, AND, LIKE:

1. Write a SQL query to insert at least 10 sample records into each table.

INSERT INTO venue (venue_id, venue_name, address) VALUES

(1, 'Grand Arena', '123 Main Street, Chennai'),

(2, 'Skyline Stadium', '45 High Road, Mumbai'),

(3, 'Harmony Hall', '67 Park Avenue, Bengaluru'),

(4, 'Star Cinemas', '12 MG Road, Pune'),

(5, 'City Convention Ctr', '88 Race Course, Coimbatore'),

(6, 'Green Park Theatre', '234 Green Street, Delhi'),

(7, 'Ocean View Grounds', '98 Marina Bay, Visakhapatnam'),

(8, 'Metro Multiplex', '76 Nelson Road, Hyderabad'),

(9, 'Diamond Club', '301 Ruby Street, Jaipur'),

(10, 'Royal Event Space', '54 Crown Street, Ahmedabad');

```
mysql> select*from venue;
+----------+--------------------+-----------------------------+
| venue_id | venue_name         | address                     |
+----------+--------------------+-----------------------------+
|        1 | Grand Arena        | 123 Main Street, Chennai    |
|        2 | Skyline Stadium    | 45 High Road, Mumbai        |
|        3 | Harmony Hall       | 67 Park Avenue, Bengaluru   |
|        4 | Star Cinemas       | 12 MG Road, Pune            |
|        5 | City Convention Ctr | 88 Race Course, Coimbatore  |
|        6 | Green Park Theatre | 234 Green Street, Delhi     |
|        7 | Ocean View Grounds | 98 Marina Bay, Visakhapatnam |
|        8 | Metro Multiplex    | 76 Nelson Road, Hyderabad   |
|        9 | Diamond Club       | 301 Ruby Street, Jaipur     |
|       10 | Royal Event Space  | 54 Crown Street, Ahmedabad  |
+----------+--------------------+-----------------------------+
```

INSERT INTO customer (customer_id, customer_name, email, phone_number) VALUES

(1, 'Rahul Sharma', 'rahul@gmail.com', '9876543210'),

(2, 'Aisha Khan', 'aisha.khan@yahoo.com', '9123456000'),

(3, 'Vinay Menon', 'vinay.menon@outlook.com', '9012345678'),

(4, 'Meera Suresh', 'meera@gmail.com', '9988776655'),

(5, 'Arjun Patel', 'arjunp@hotmail.com', '8888665544'),

(6, 'Sneha Rao', 'sneha.rao@rediff.com', '9111223344'),

(7, 'Karthik Iyer', 'karthik@xyz.com', '9345612789'),

(8, 'Riya Das', 'riya.das@gmail.com', '9321456789'),

(9, 'Pranav Joshi', 'pranavj@yahoo.com', '9456721000'),

(10, 'Tanvi Nair', 'tanvi.nair@gmail.com', '9988001122')

(11, 'Noah Kumar', 'noah.kumar@example.com', '9000000000');

```
mysql> select*from customer;
+-------------+---------------+--------------------------+--------------+
| customer_id | customer_name | email                    | phone_number |
+-------------+---------------+--------------------------+--------------+
|           1 | Rahul Sharma  | rahul@gmail.com          | 9876543210   |
|           2 | Aisha Khan    | aisha.khan@yahoo.com     | 9123456000   |
|           3 | Vinay Menon   | vinay.menon@outlook.com  | 9012345678   |
|           4 | Meera Suresh  | meera@gmail.com          | 9988776655   |
|           5 | Arjun Patel   | arjunp@hotmail.com       | 8888665544   |
|           6 | Sneha Rao     | sneha.rao@rediff.com     | 9111223344   |
|           7 | Karthik Iyer  | karthik@xyz.com          | 9345612789   |
|           8 | Riya Das      | riya.das@gmail.com       | 9321456789   |
|           9 | Pranav Joshi  | pranavj@yahoo.com        | 9456721000   |
|          10 | Tanvi Nair    | tanvi.nair@gmail.com     | 9988001122   |
|          11 | Noah Kumar    | noah.kumar@example.com   | 9000000000   |
+-------------+---------------+--------------------------+--------------+
11 rows in set (0.00 sec)
```

INSERT INTO Event (event_id, event_name, event_date, event_time, venue_id, total_seats, available_seats, ticket_price, event_type) VALUES

(1, 'Court teaser release', '2025-11-15', '19:00:00', 1, 500, 150, 250.00, 'Movie'),

(2, 'Football Final', '2025-12-10', '20:30:00', 2, 20000, 5000, 120.50, 'Sports'),

(3, 'Coldplay Concert', '2025-11-25', '21:00:00', 3, 10000, 2000, 489.99, 'Concert'),

(4, 'The Batman', '2025-11-20', '18:30:00', 4, 300, 75, 119.99, 'Movie'),

(5, 'World cup Match', '2025-12-05', '18:00:00', 5, 70000, 10000, 150.00, 'Sports'),

(6, 'AR Rahman Concert', '2025-12-15', '19:30:00', 6, 1200, 0, 475.00, 'Concert'),

(7, 'Black Panther 2', '2025-11-18', '20:00:00', 1, 500, 200, 122.50, 'Movie'),

(8, 'U1 drugs', '2025-12-20', '20:00:00', 7, 15000, 2500, 300.00, 'Concert'),

(9, 'Yard Games Championship', '2025-12-12', '19:00:00', 2, 20000, 3000, 200.00, 'Sports'),

(10, 'Zenith Film Premiere', '2025-11-22', '17:30:00', 4, 300, 0 , 150.00, 'Movie'),

(11, 'Unpopular Jazz Night', '2025-12-25', '20:00:00', 8,200, 200, 100.00, 'Concert');

```
mysql> select*from event;
+----------+------------------------+------------+------------+-------------+----------------+--------------+------------+----------+
| event_id | event_name             | event_date | event_time | total_seats | available_seats | ticket_price | event_type | venue_id |
+----------+------------------------+------------+------------+-------------+----------------+--------------+------------+----------+
|        1 | Court teaser release   | 2025-11-15 | 19:00:00   |         500 |            150 |       250.00 | Movie      |        1 |
|        2 | Football Final         | 2025-12-10 | 20:30:00   |       20000 |           5000 |       120.50 | Sports     |        2 |
|        3 | Coldplay Concert       | 2025-11-25 | 21:00:00   |       10000 |           2000 |       489.99 | Concert    |        3 |
|        4 | The Batman             | 2025-11-20 | 18:30:00   |         300 |             75 |       119.99 | Movie      |        4 |
|        5 | World cup Match        | 2025-12-05 | 18:00:00   |       70000 |          10000 |       150.00 | Sports     |        5 |
|        6 | AR Rahman Concert      | 2025-12-15 | 19:30:00   |        1200 |              0 |       475.00 | Concert    |        6 |
|        7 | Black Panther 2        | 2025-11-18 | 20:00:00   |         500 |            200 |       122.50 | Movie      |        1 |
|        8 | U1 drugs               | 2025-12-20 | 20:00:00   |       15000 |           2500 |       300.00 | Concert    |        7 |
|        9 | Yard Games Championship | 2025-12-12 | 19:00:00   |       20000 |           3000 |       200.00 | Sports     |        2 |
|       10 | Zenith Film Premiere   | 2025-11-22 | 17:30:00   |         300 |              0 |       150.00 | Movie      |        4 |
|       11 | Unpopular Jazz Night   | 2025-12-25 | 20:00:00   |         200 |            200 |       100.00 | Concert    |        8 |
+----------+------------------------+------------+------------+-------------+----------------+--------------+------------+----------+
11 rows in set (0.00 sec)
```

INSERT INTO Booking (booking_id, customer_id, event_id, num_tickets, total_cost, booking_date) VALUES

(1, 1, 1, 2, 500.00, '2025-11-10'),(2, 1, 3, 1, 489.99, '2025-11-12'),(3, 1, 5, 4, 600.00, '2025-11-28'),

(4, 2, 2, 4, 482.00, '2025-12-01'),(5, 2, 7, 2, 245.00, '2025-11-15'),(6, 3, 3, 1, 489.99, '2025-11-20'),

(7, 3, 8, 3, 900.00, '2025-12-05'),(8, 4, 4, 3, 359.97, '2025-11-15'),(9, 4, 6, 2, 950.00, '2025-12-10'),

(10, 5, 5, 2, 300.00, '2025-11-30'),(11, 5, 9, 1, 200.00, '2025-12-08'),(12, 6, 6, 2, 950.00, '2025-12-10'),

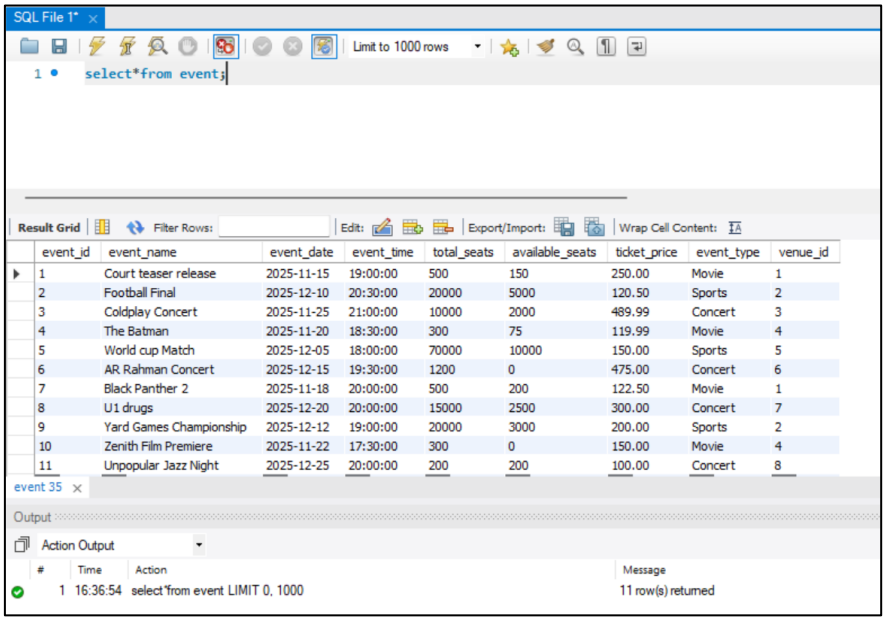
(13, 6, 10, 4,600.00, '2025-11-18'),(14, 7, 7, 1, 122.50, '2025-11-12'),(15, 7, 1, 3, 750.00, '2025-11-14'),

(16, 8, 8, 5, 1500.00, '2025-12-15'),(17, 8, 2, 2, 241.00, '2025-12-05'),(18, 9, 9, 3, 600.00, '2025-12-05'),

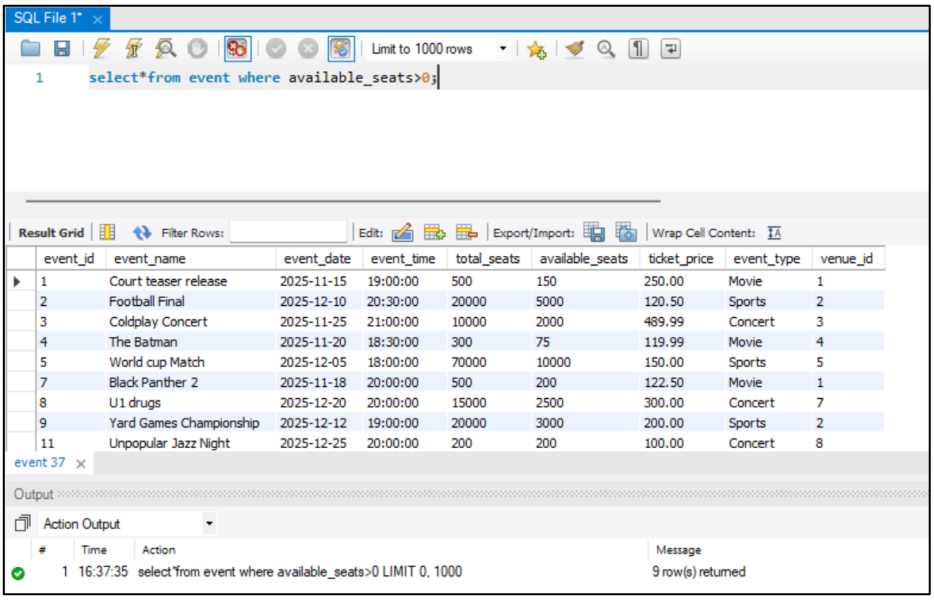
(19, 9, 4, 1, 119.99, '2025-11-16'),(20, 10, 10, 2, 300.98, '2025-11-18'),(21, 10, 3, 2, 979.98, '2025-11-20');

```
mysql> select*from booking;
+------------+-------------+------------+--------------+-------------+----------+
| booking_id | num_tickets | total_cost | booking_date | customer_id | event_id |
+------------+-------------+------------+--------------+-------------+----------+
|          1 |           2 |     500.00 | 2025-11-10   |           1 |        1 |
|          2 |           1 |     489.99 | 2025-11-12   |           1 |        3 |
|          3 |           4 |     600.00 | 2025-11-28   |           1 |        5 |
|          4 |           4 |     482.00 | 2025-12-01   |           2 |        2 |
|          5 |           2 |     245.00 | 2025-11-15   |           2 |        7 |
|          6 |           1 |     489.99 | 2025-11-20   |           3 |        3 |
|          7 |           3 |     900.00 | 2025-12-05   |           3 |        8 |
|          8 |           3 |     359.97 | 2025-11-15   |           4 |        4 |
|          9 |           2 |     950.00 | 2025-12-10   |           4 |        6 |
|         10 |           2 |     300.00 | 2025-11-30   |           5 |        5 |
|         11 |           1 |     200.00 | 2025-12-08   |           5 |        9 |
|         12 |           2 |     950.00 | 2025-12-10   |           6 |        6 |
|         13 |           4 |     600.00 | 2025-11-18   |           6 |       10 |
|         14 |           1 |     122.50 | 2025-11-12   |           7 |        7 |
|         15 |           3 |     750.00 | 2025-11-14   |           7 |        1 |
|         16 |           5 |    1500.00 | 2025-12-15   |           8 |        8 |
|         17 |           2 |     241.00 | 2025-12-05   |           8 |        2 |
|         18 |           3 |     600.00 | 2025-12-05   |           9 |        9 |
|         19 |           1 |     119.99 | 2025-11-16   |           9 |        4 |
|         20 |           2 |     300.98 | 2025-11-18   |          10 |       10 |
|         21 |           2 |     979.98 | 2025-11-20   |          10 |        3 |
+------------+-------------+------------+--------------+-------------+----------+
21 rows in set (0.01 sec)
```

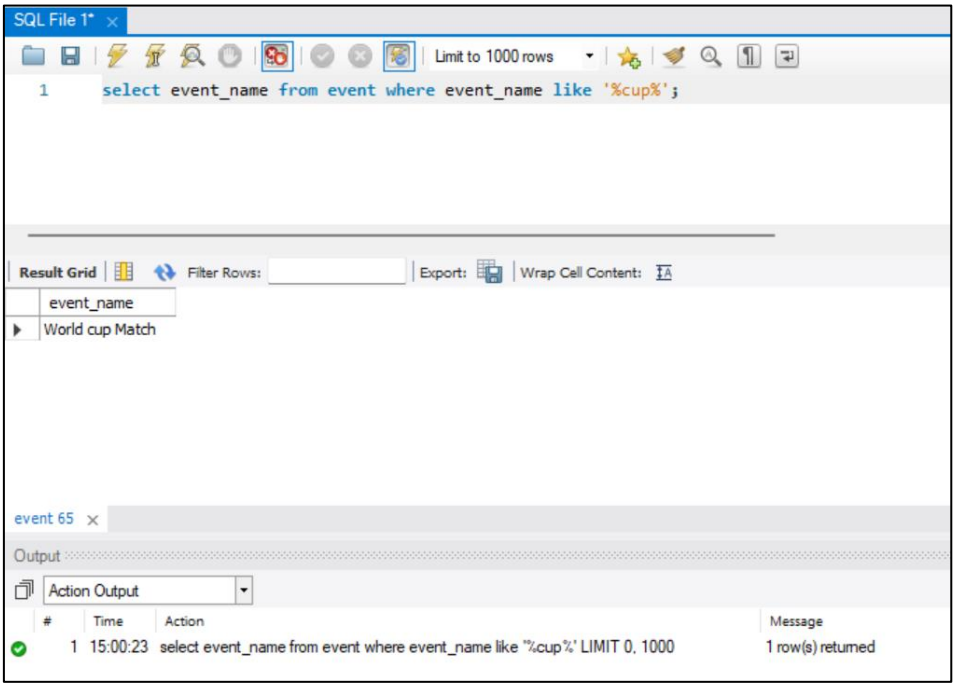
2.Write a SQL query to list all Events



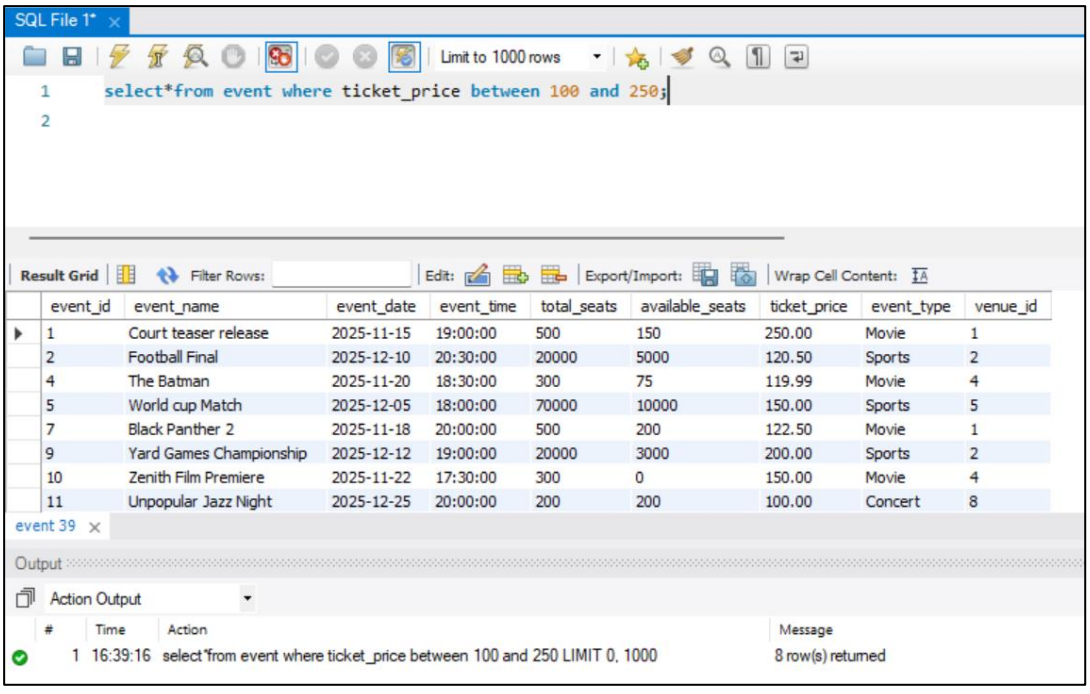
3. Write a SQL query to select events with available tickets.



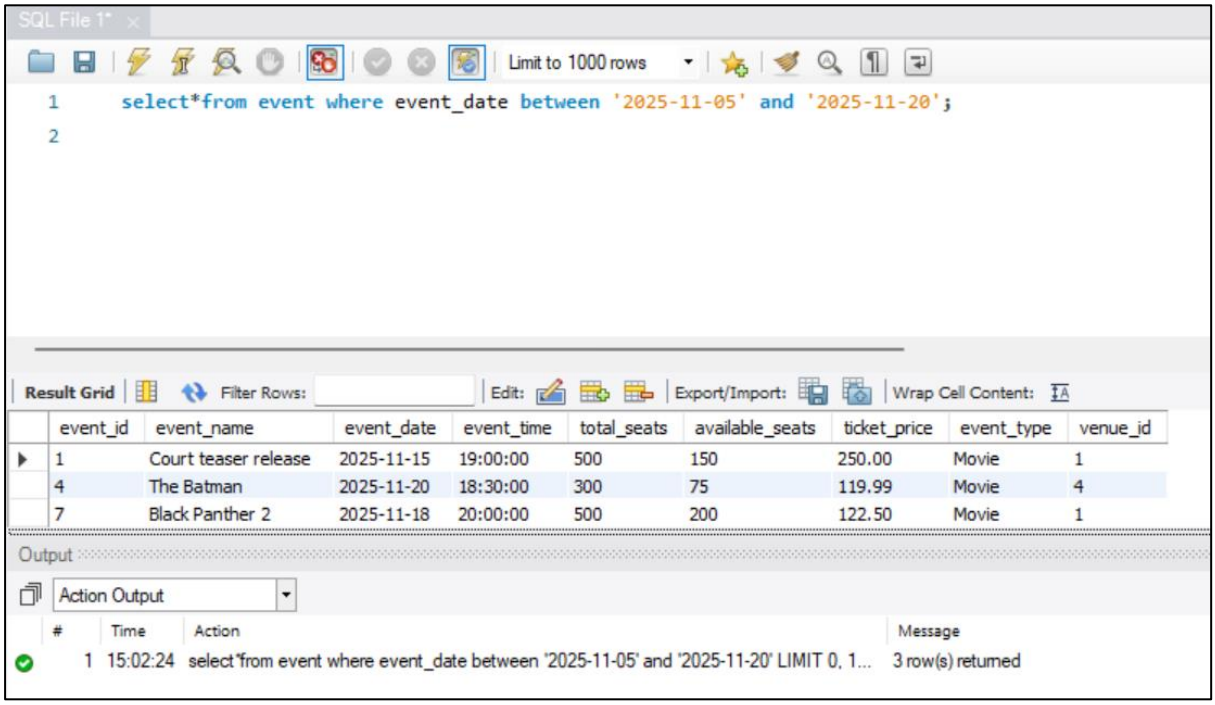
4. Write a SQL query to select events name partial match with ‘cup’.



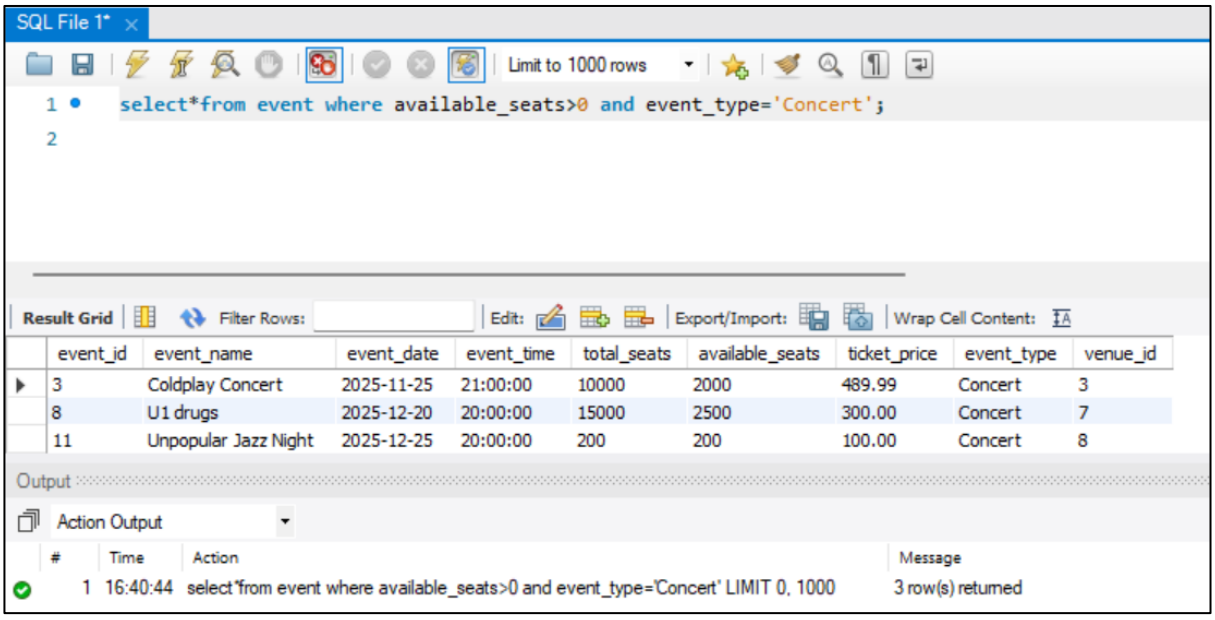
5.Write a SQL query to select events with ticket price range is between 100 to 250.



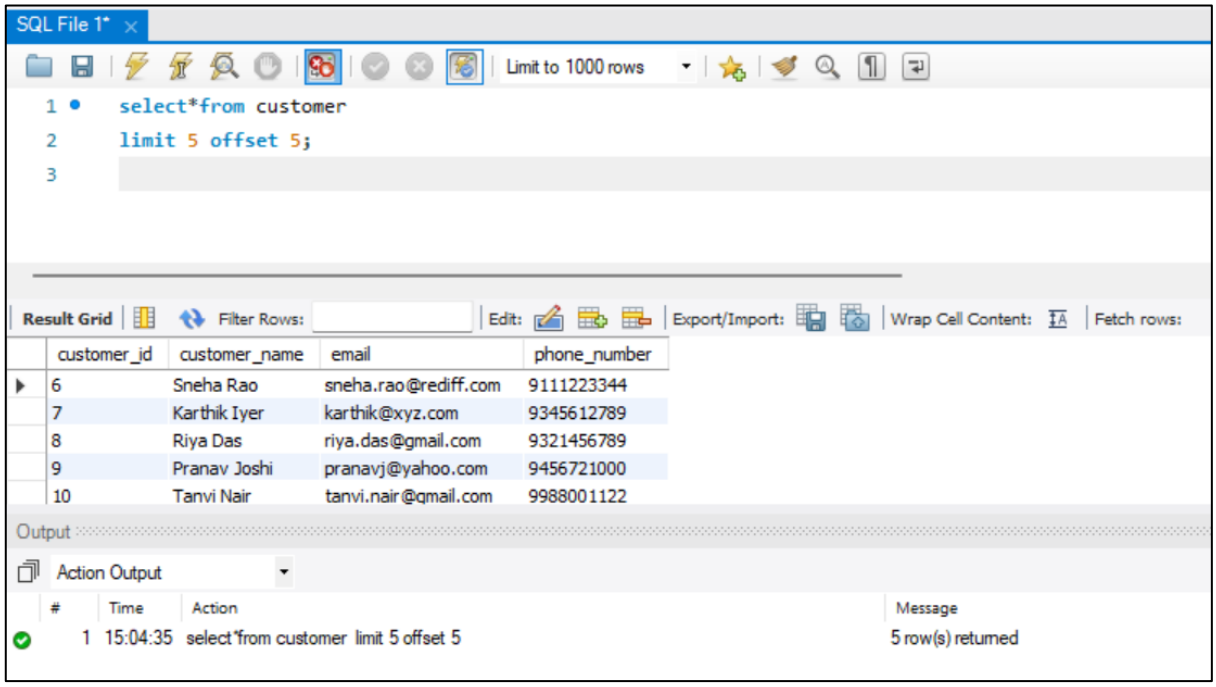
6.Write a SQL query to retrieve events with dates falling within a specific range.



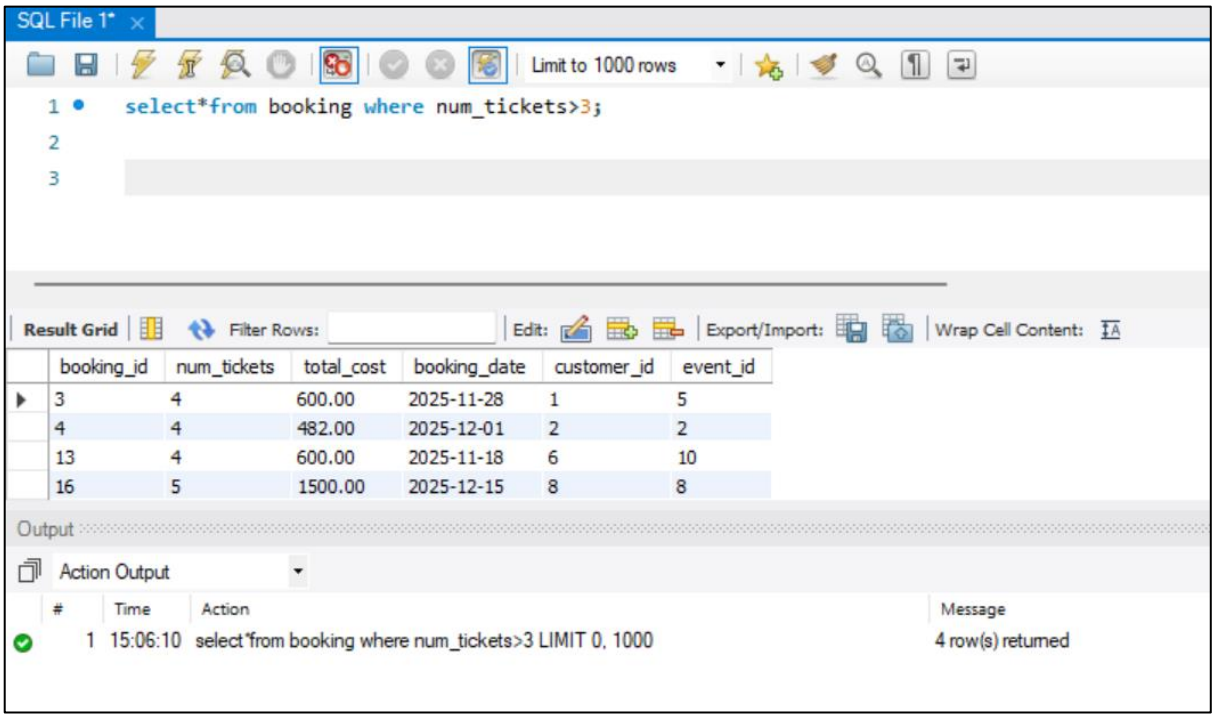
7.Write a SQL query to retrieve events with available tickets that also have "Concert" in their name.



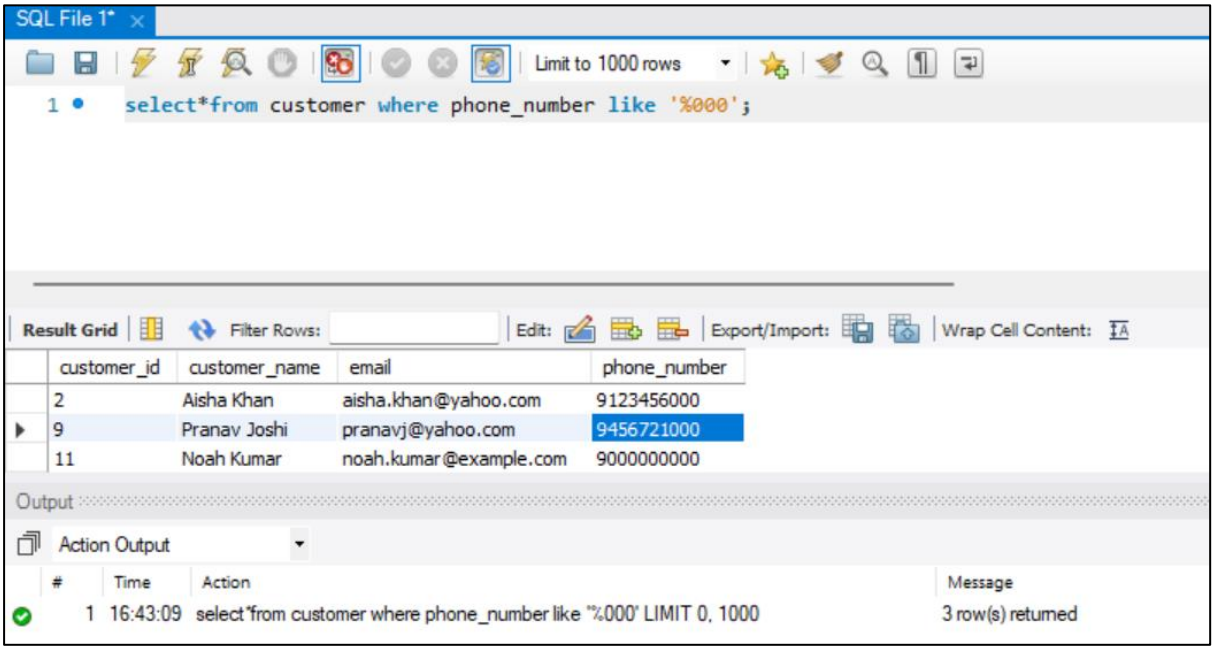
8.Write a SQL query to retrieve users in batches of 5, starting from the 6th user.



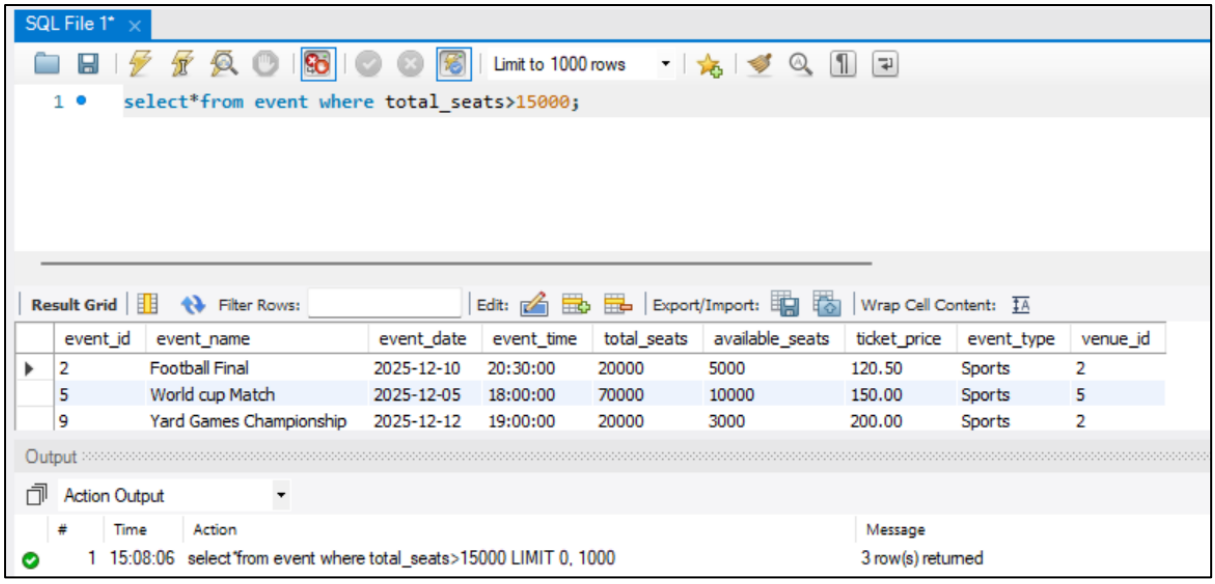
9.Write a SQL query to retrieve bookings details contains booked no of ticket more than 3



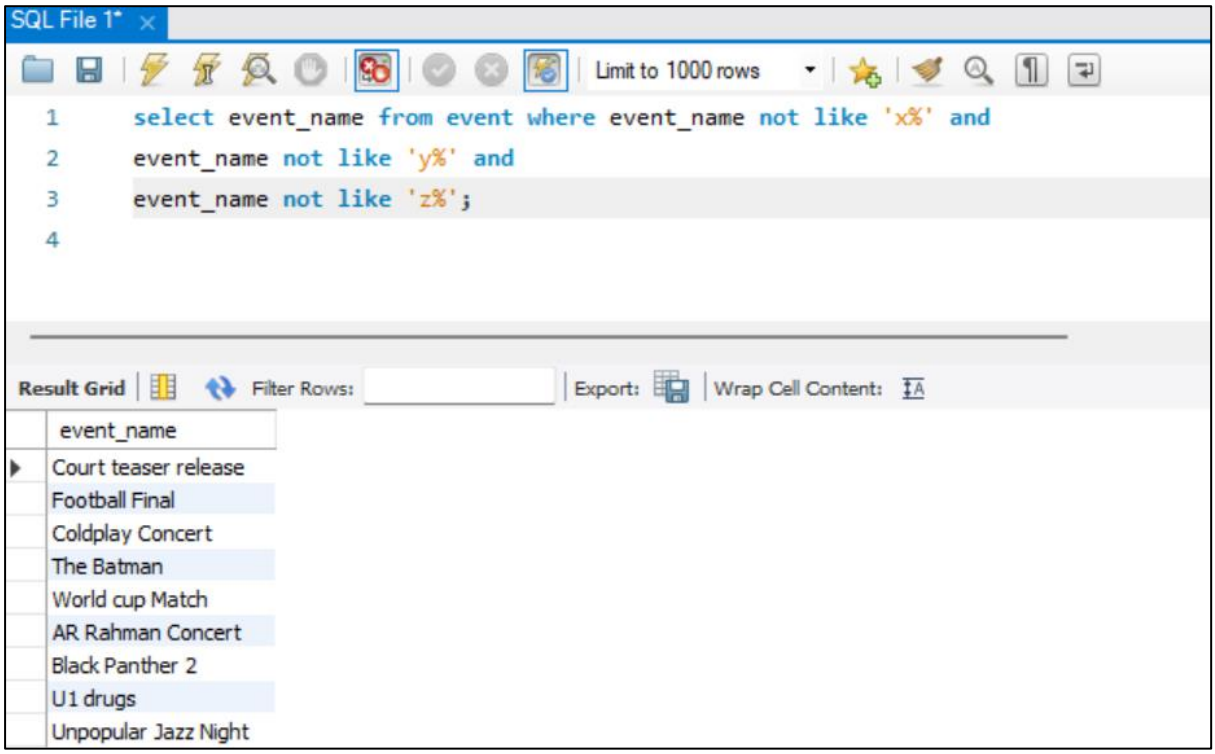
10.Write a SQL query to retrieve customer information whose phone number end with '000'



11.Write a SQL query to retrieve the events in order whose seat capacity more than 15000.

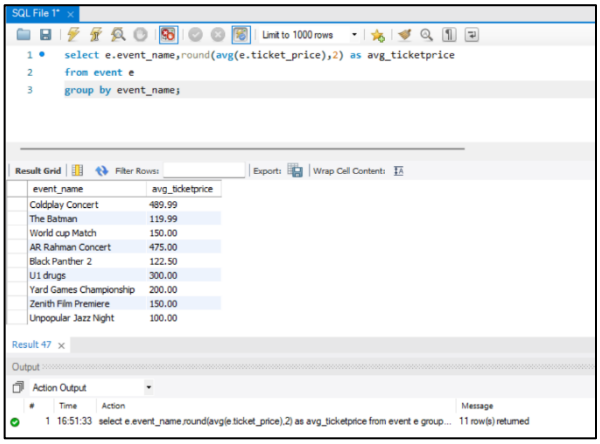


12.Write a SQL query to select events name not start with ‘x’, ‘y’, ‘z’

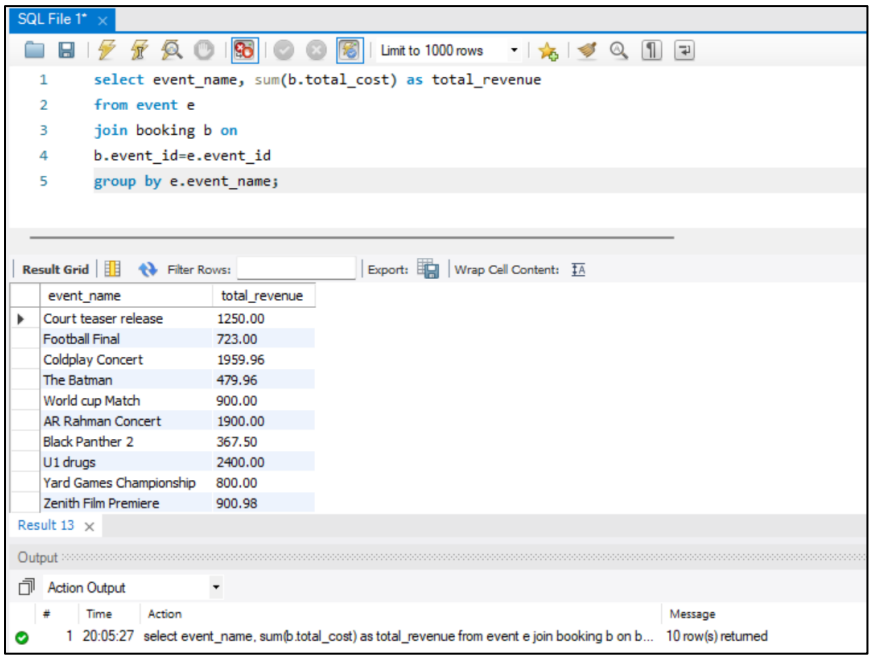


Task 3: Aggregate functions, Having, Order By, Group By and Joins:

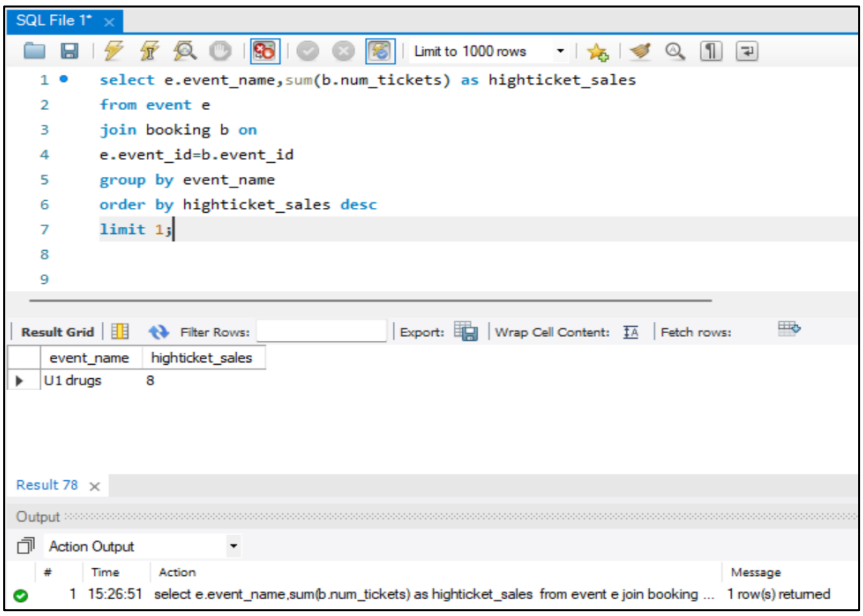
1. Write a SQL query to List Events and Their Average Ticket Prices.



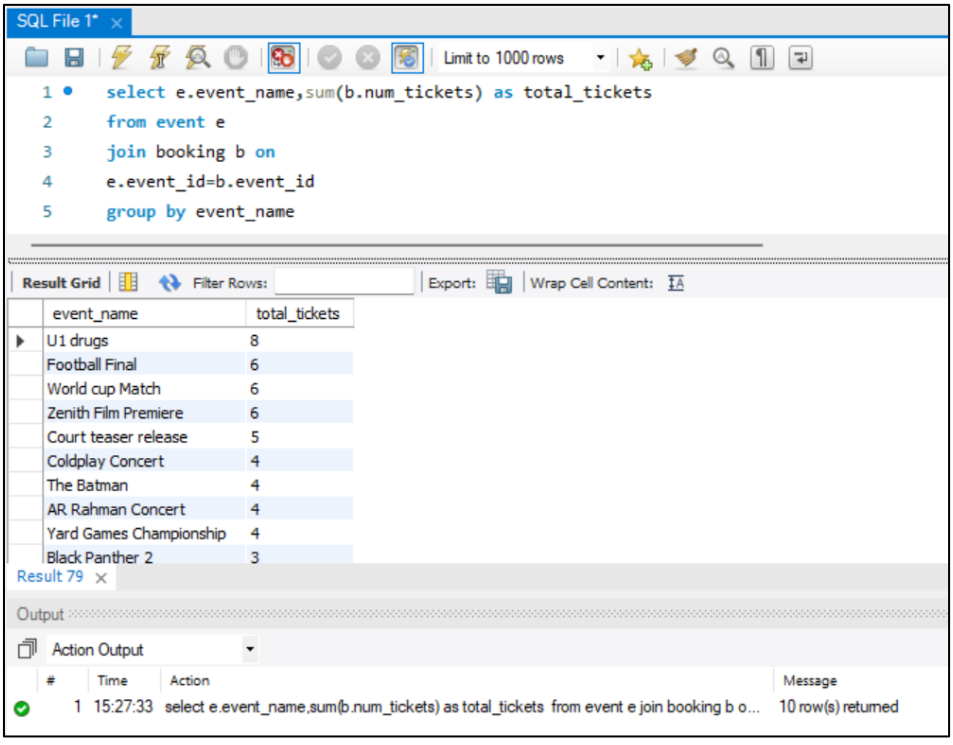
2. Write a SQL query to Calculate the Total Revenue Generated by Events.



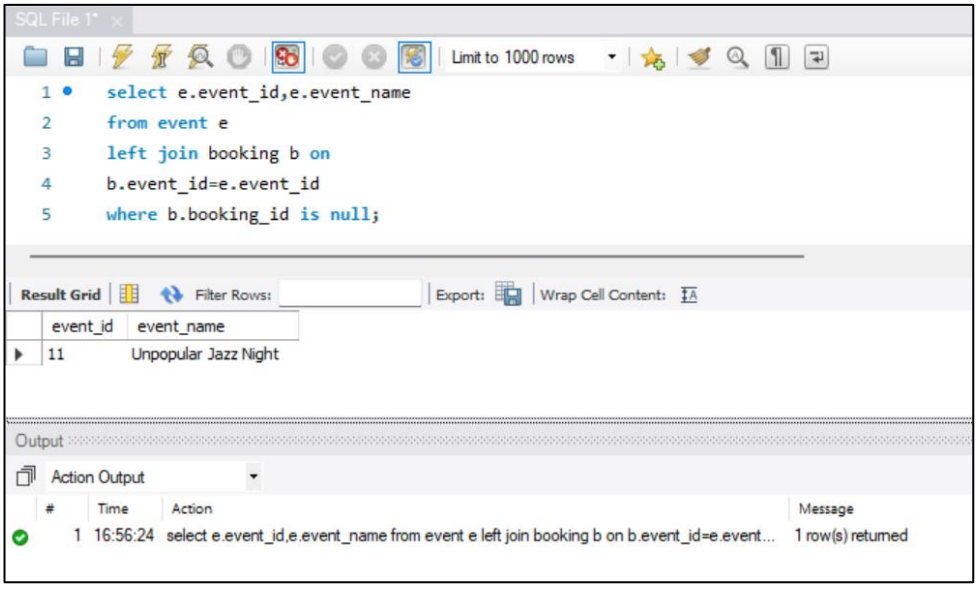
3. Write a SQL query to find the event with the highest ticket sales.



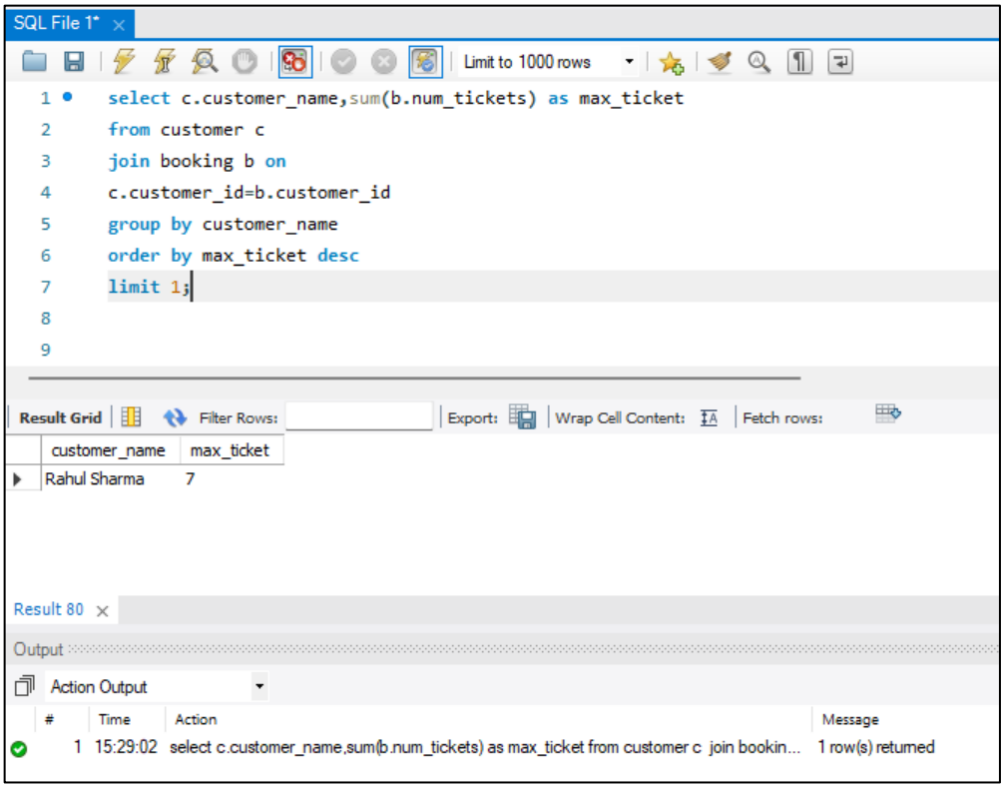
4. Write a SQL query to Calculate the Total Number of Tickets Sold for Each Event.



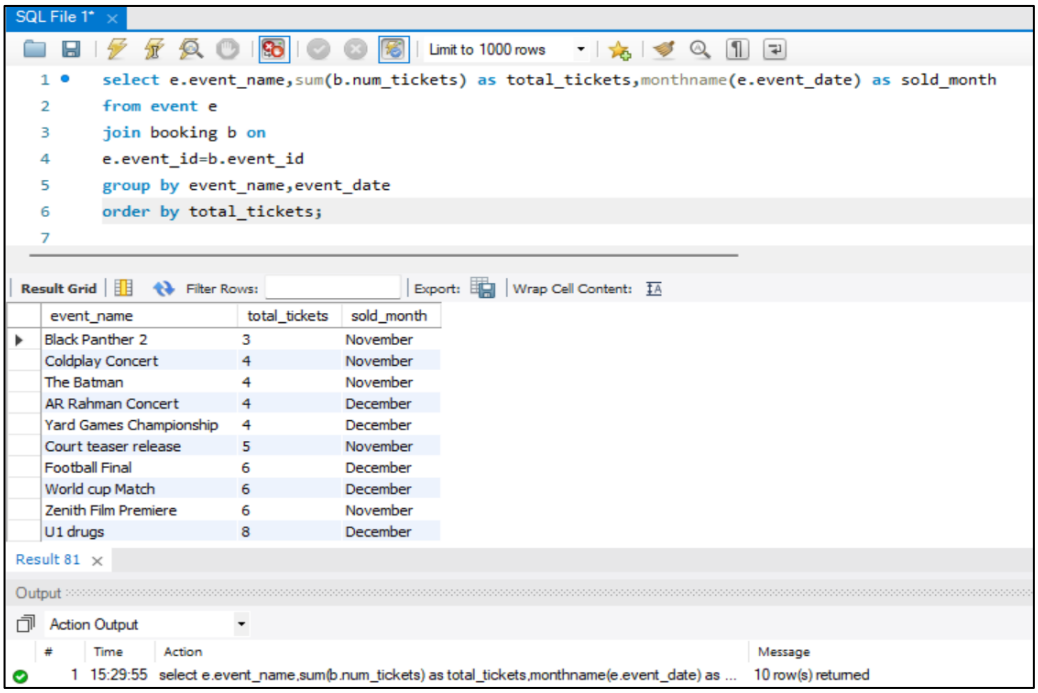
5. Write a SQL query to Find Events with No Ticket Sales.



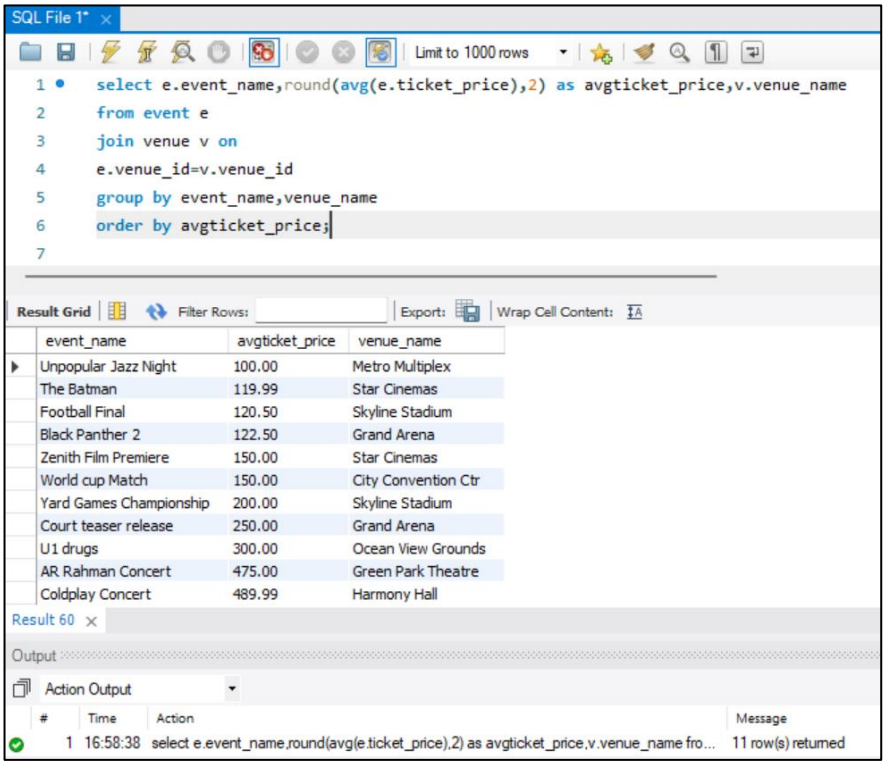
6. Write a SQL query to Find the User Who Has Booked the Most Tickets



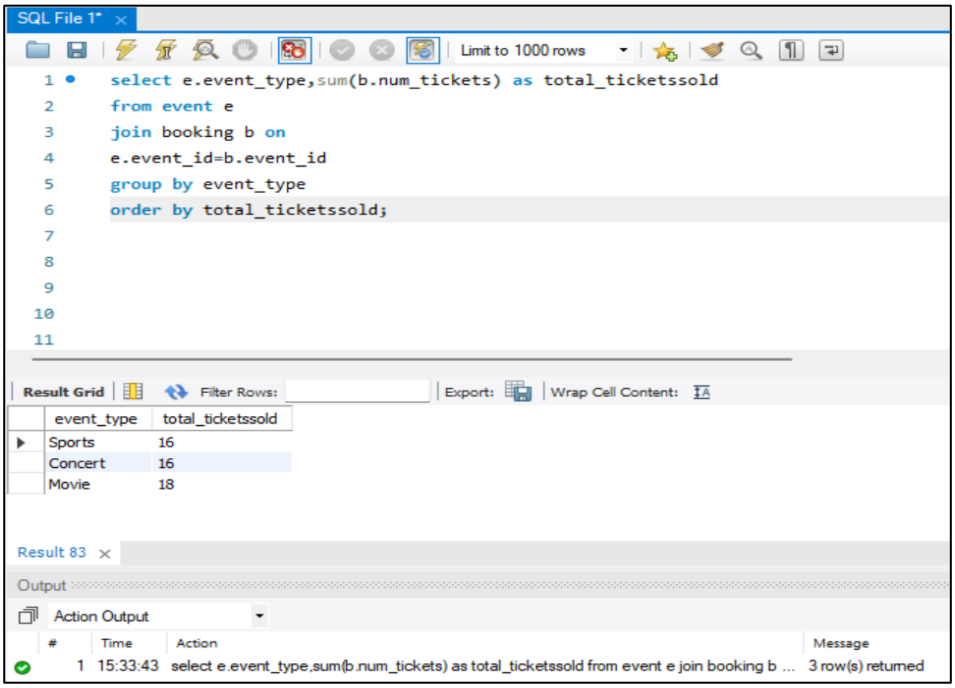
7. Write a SQL query to List Events and the total number of tickets sold for each month.



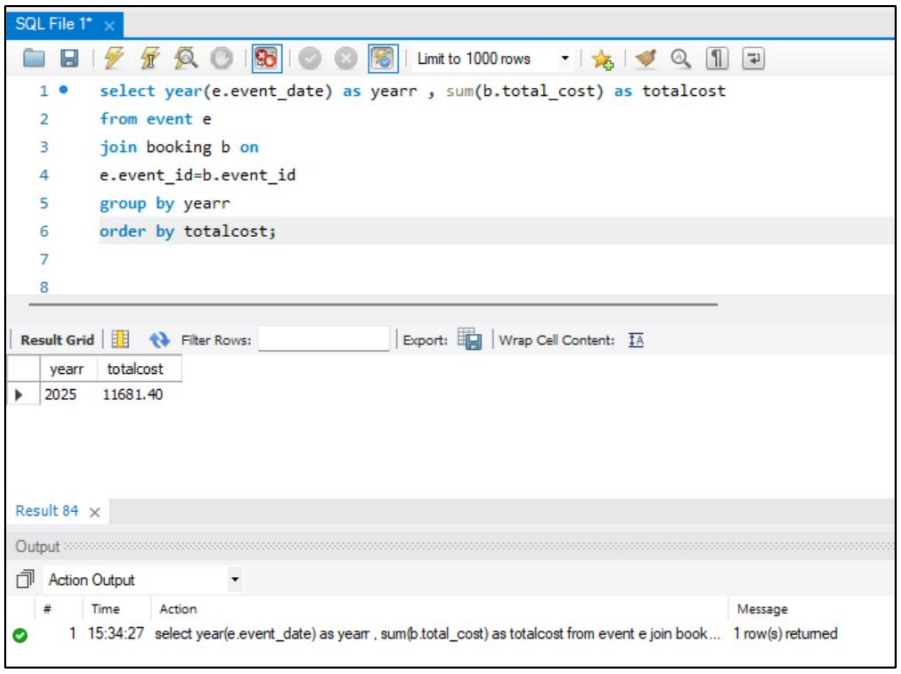
8. Write a SQL query to calculate the average Ticket Price for Events in Each Venue.



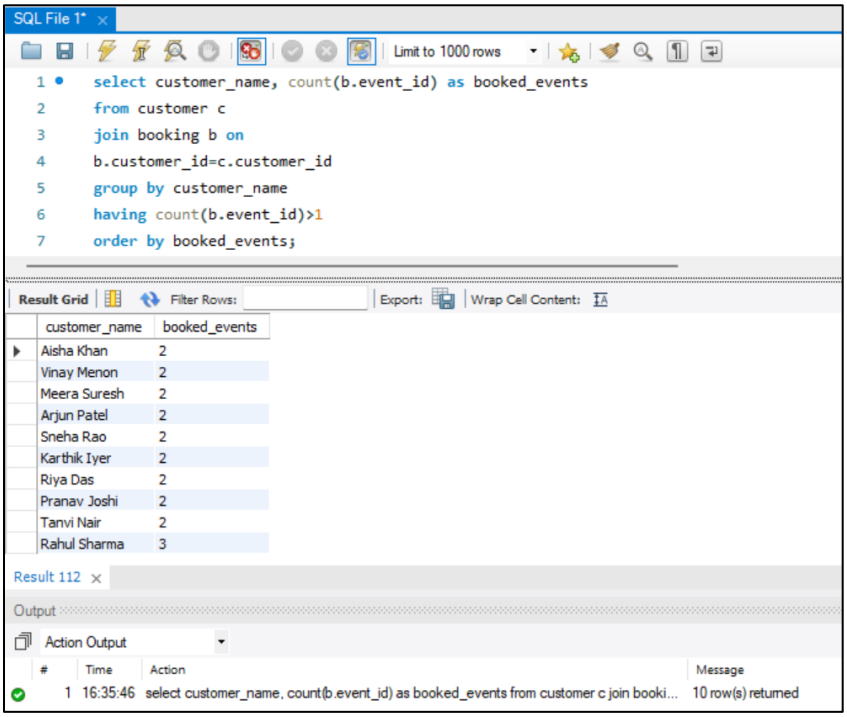
9. Write a SQL query to calculate the total Number of Tickets Sold for Each Event Type.



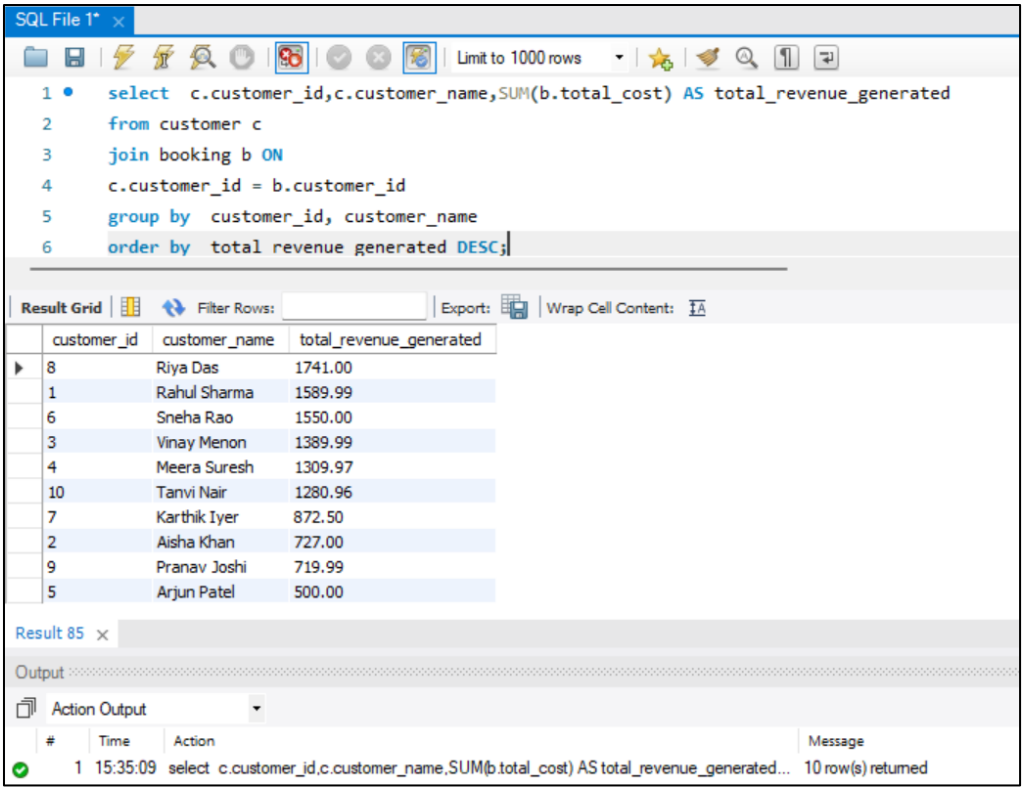
10. Write a SQL query to calculate the total Revenue Generated by Events in Each Year.



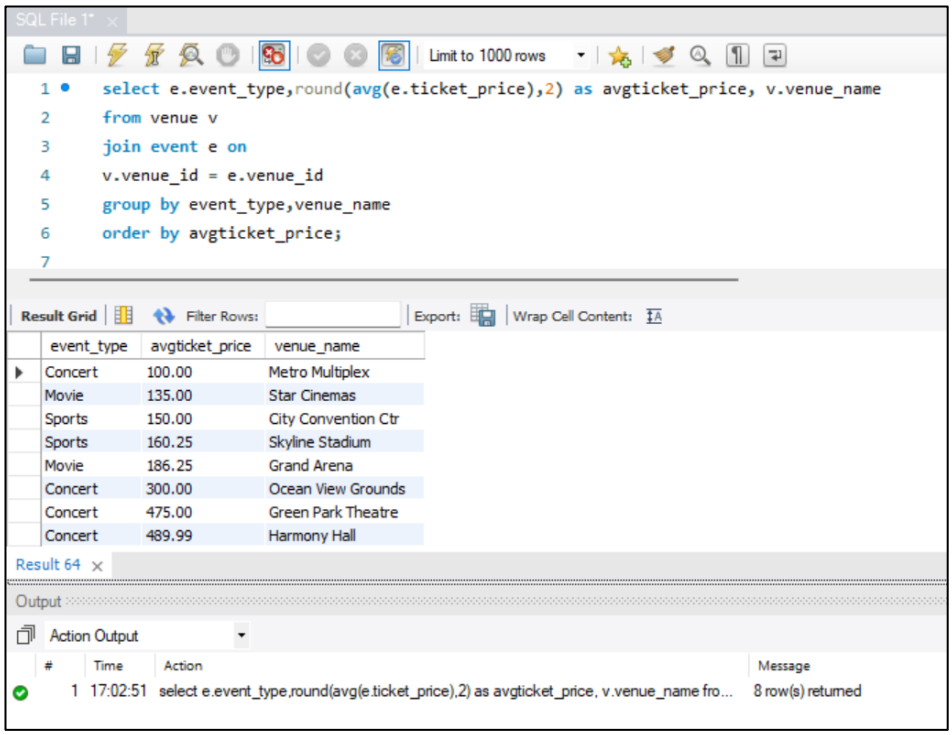
11. Write a SQL query to list users who have booked tickets for multiple events.



12. Write a SQL query to calculate the Total Revenue Generated by Events for Each User.



13. Write a SQL query to calculate the Average Ticket Price for Events in Each Category and Venue.



```
select e.event_type,round(avg(e.ticket_price),2) as avgticket_price, v.venue_name
from venue v
join event e on
v.venue_id = e.venue_id
group by event_type,venue_name
order by avgticket_price;
```

event_type	avgticket_price	venue_name
Concert	100.00	Metro Multiplex
Movie	135.00	Star Cinemas
Sports	150.00	City Convention Ctr
Sports	160.25	Skyline Stadium
Movie	186.25	Grand Arena
Concert	300.00	Ocean View Grounds
Concert	475.00	Green Park Theatre
Concert	489.99	Harmony Hall

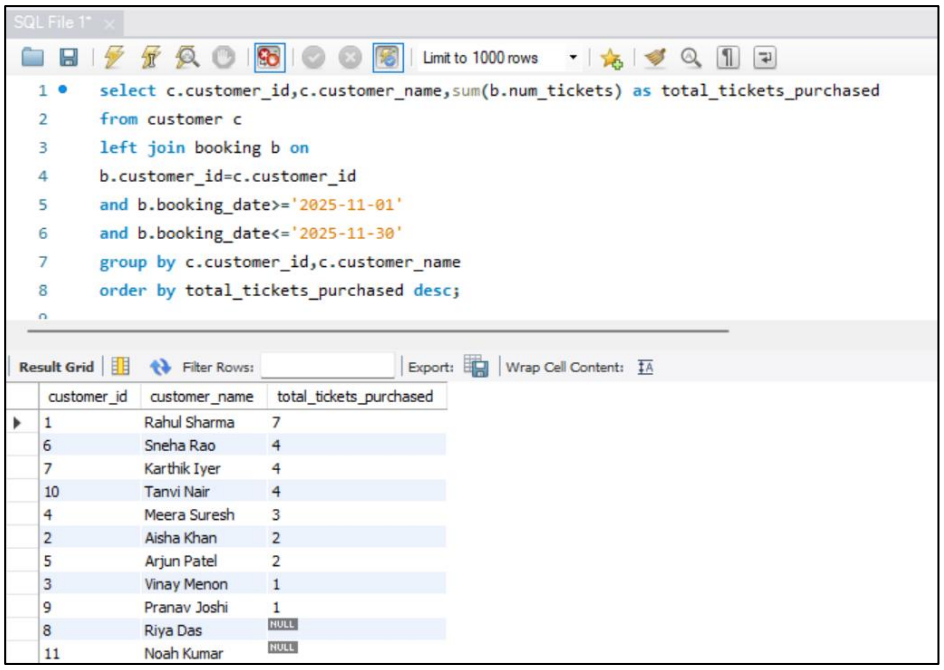
Result 64

Output

Action Output

#	Time	Action	Message
1	17:02:51	select e.event_type,round(avg(e.ticket_price),2) as avgticket_price, v.venue_name fro...	8 row(s) returned

14. Write a SQL query to list Users and the Total Number of Tickets They've Purchased in the Last 30 days

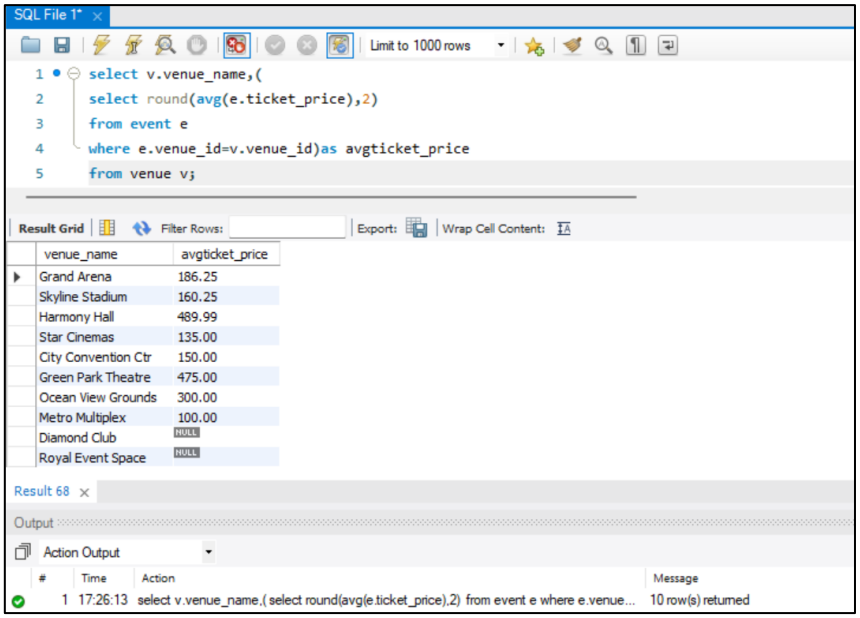


```
select c.customer_id,c.customer_name,sum(b.num_tickets) as total_tickets_purchased
from customer c
left join booking b on
b.customer_id=c.customer_id
and b.booking_date>='2025-11-01'
and b.booking_date<='2025-11-30'
group by c.customer_id,c.customer_name
order by total_tickets_purchased desc;
```

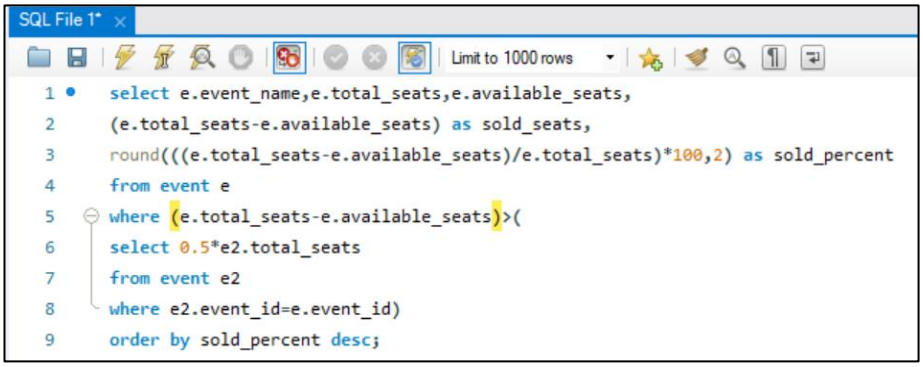
customer_id	customer_name	total_tickets_purchased
1	Rahul Sharma	7
6	Sneha Rao	4
7	Karthik Iyer	4
10	Tanvi Nair	4
4	Meera Suresh	3
2	Aisha Khan	2
5	Arjun Patel	2
3	Vinay Menon	1
9	Pranav Joshi	1
8	Riya Das	NULL
11	Noah Kumar	NULL

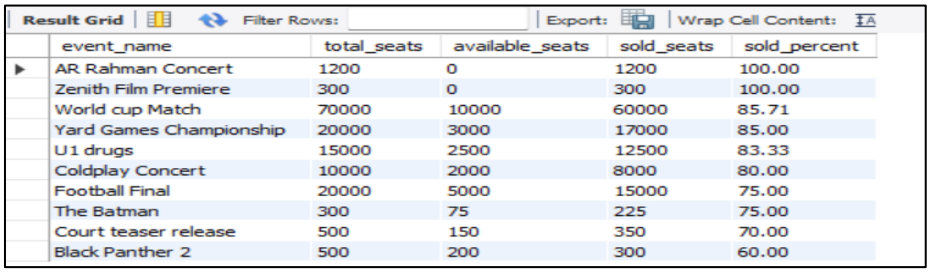
Tasks 4: Subquery and its types

1. Calculate the Average Ticket Price for Events in Each Venue Using a Subquery.

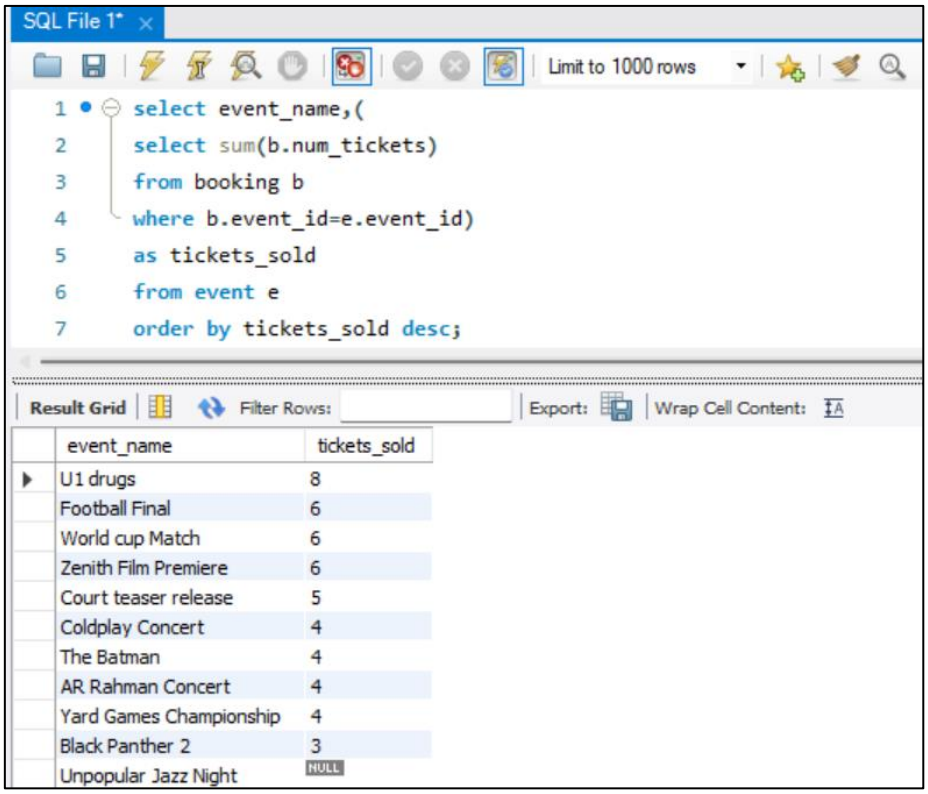


2. Find Events with More Than 50% of Tickets Sold using subquery.

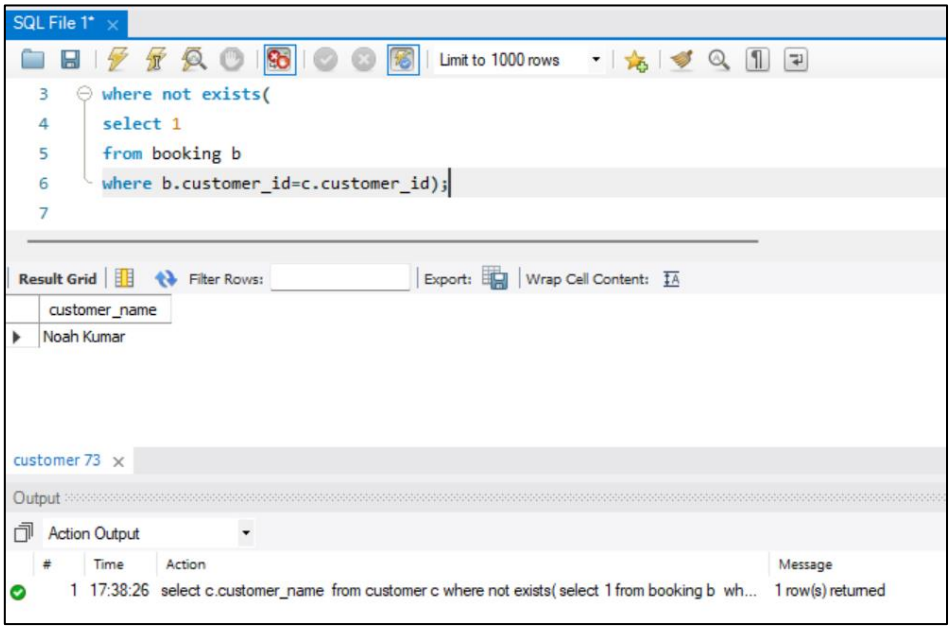




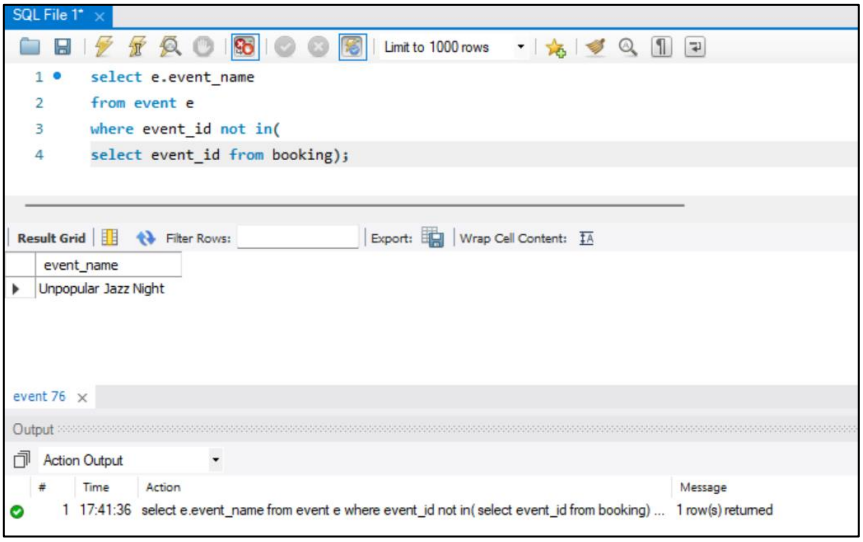
3. Calculate the Total Number of Tickets Sold for Each Event.



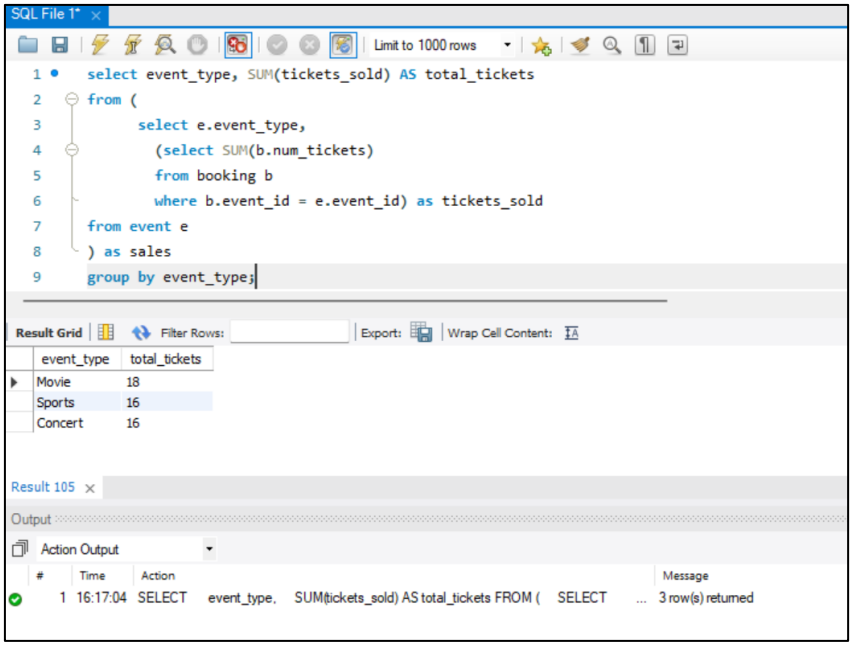
4. Find Users Who Have Not Booked Any Tickets Using a NOT EXISTS Subquery.



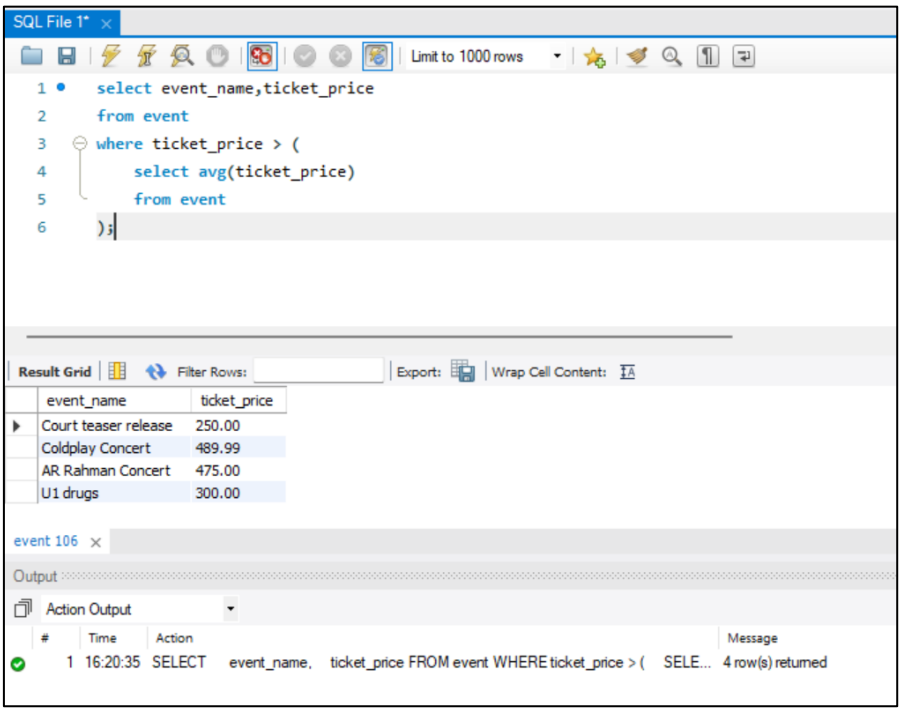
5. List Events with No Ticket Sales Using a NOT IN Subquery.



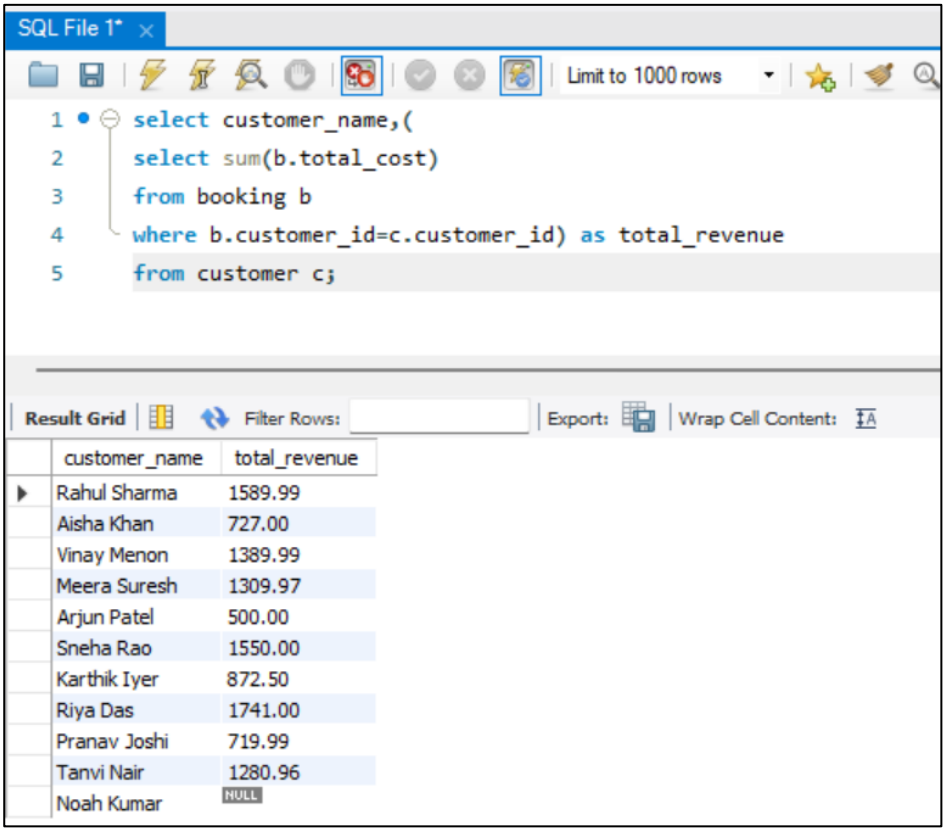
6. Calculate the Total Number of Tickets Sold for Each Event Type Using a Subquery in the FROM Clause.



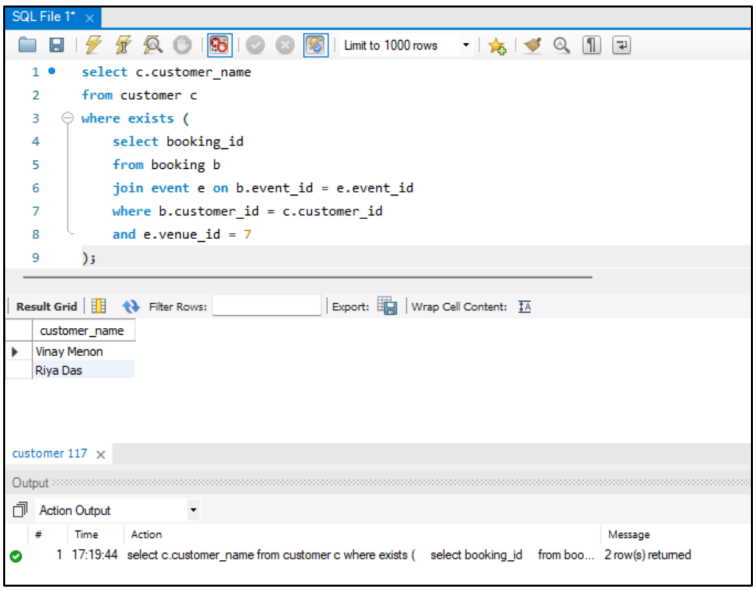
7. Find Events with Ticket Prices Higher Than the Average Ticket Price Using a Subquery in the WHERE Clause.



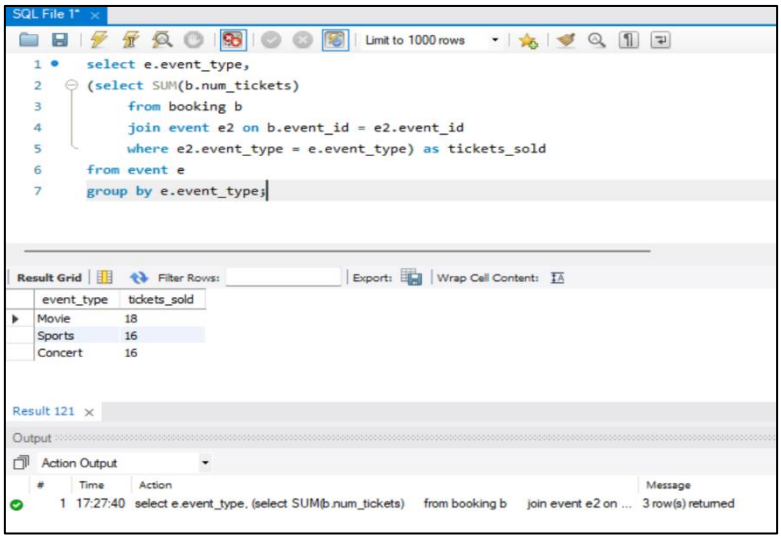
8. Calculate the Total Revenue Generated by Events for Each User Using a Correlated Subquery.



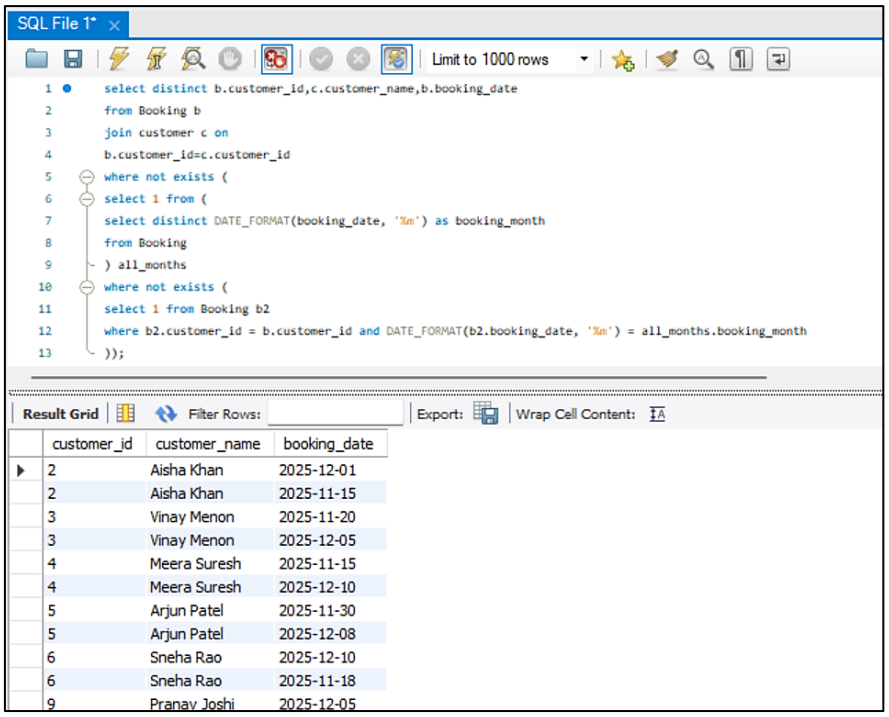
9. List Users Who Have Booked Tickets for Events in a Given Venue Using a Subquery in the WHERE Clause.



10. Calculate the Total Number of Tickets Sold for Each Event Category Using a Subquery with GROUP BY.



11. Find Users Who Have Booked Tickets for Events in each Month Using a Subquery with DATE_FORMAT.



12. Calculate the Average Ticket Price for Events in Each Venue Using a Subquery