```sql
-- 1. 10 آهنگ برتر که بیشترین درامد رو داشتن به همراه درامد ایجاد شده
select il.TrackId,t.Name as TrackName,SUM(il.UnitPrice * il.Quantity) AS Revenue
from invoiceline il
join track t on il.TrackId =t.TrackId
group by il.TrackId ,t.Name
order by Revenue desc
limit 10;
```
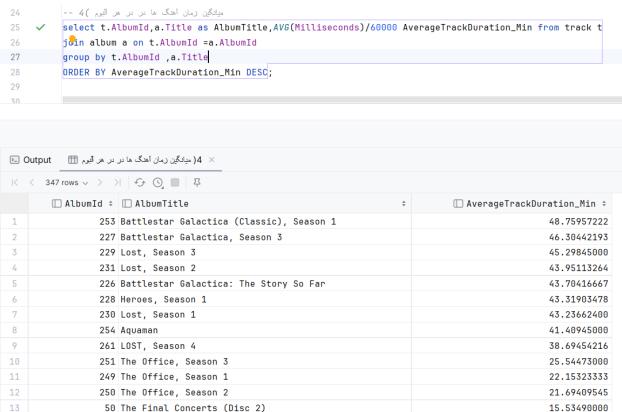
il

⊡ Output   ⊞ 1.10 آهنگ برتر که ب...همراه درامد ایجاد شده ✕

|< < 10 rows ∨ > >| ↻ ⊙ ■ ⊼

	TrackId	TrackName	Revenue
1	3177	Hot Girl	3.98
2	2868	Walkabout	3.98
3	3200	Gay Witch Hunt	3.98
4	3223	How to Stop an Exploding Man	3.98
5	3250	Pilot	3.98
6	3214	Phyllis's Wedding	3.98
7	2850	The Fix	3.98
8	2832	The Woman King	3.98
9	2874	I Do	1.99
10	2862	The Glass Ballerina	1.99

```sql
-- 2. محبوب ترین ژانر به تر تیب از نظر تعداد آهنگهای فروخته شده و کل درامد
select SUM(il.Quantity) AS TotalTracksSold,SUM(il.UnitPrice * il.Quantity) AS TotalRevenue ,t.GenreId,g.Name as GenreName
from invoiceline il
join track t on il.TrackId =t.TrackId
join genre g on t.GenreId =g.GenreId
group by t.GenreId,g.Name
order by 1 desc,2 desc
limit 1;
```

⊡ Output   ⊞ Result 20 ✕

|< < 1 row ∨ > >| ↻ ⊙ ■ ⊼

	TotalTracksSold	TotalRevenue	GenreId	GenreName
1	835	826.65	1	Rock

```
20        -- .3 کاربرانی که تا حال خرید نداشتند
21   ✓    select c.CustomerId,c.FirstName,c.LastName
22        from customer c
23        left join invoice i ON c.CustomerId =i.CustomerId
24        where i.CustomerId is null;
25
26
```
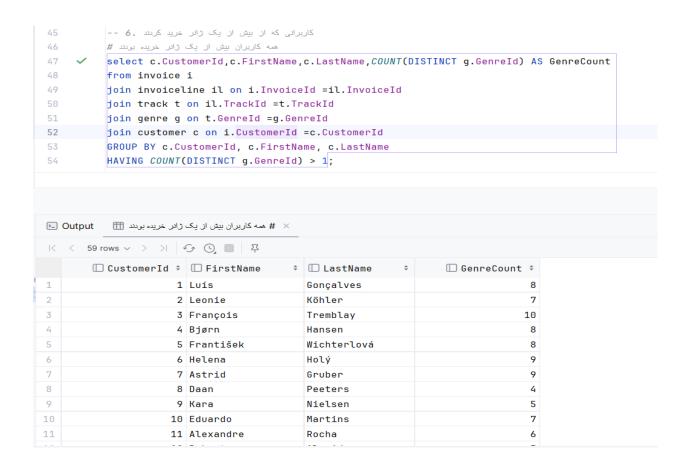
🖥 Output   ⊞ .3 کاربرانی که تا حال خرید نداشتند   ✕

|◁ ◁ 0 rows ∨ ▷ ▷| ↻ 🕐 ⬛ ＋ － ↶ ⟳ ⇧   Tx: Auto ∨   DDL   📌

🔑 CustomerId ⇕	🔲 FirstName ⇕	🔲 LastName ⇕

```
24        -- ( میانگین زمان آهنگ ها در در هر آلبوم )4
25   ✓    select t.AlbumId,a.Title as AlbumTitle,AVG(Milliseconds)/60000 AverageTrackDuration_Min from track t
26        join album a on t.AlbumId =a.AlbumId
27        group by t.AlbumId ,a.Title
28        ORDER BY AverageTrackDuration_Min DESC;
29
30
```
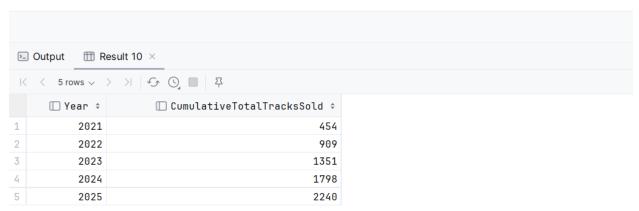
🖥 Output   ⊞ 4(میانگین زمان آهنگ ها در در هر آلبوم   ✕

|◁ ◁ 347 rows ∨ ▷ ▷| ↻ 🕐 ⬛ 📌

	🔲 AlbumId ⇕	🔲 AlbumTitle ⇕	🔲 AverageTrackDuration_Min ⇕
1	253	Battlestar Galactica (Classic), Season 1	48.75957222
2	227	Battlestar Galactica, Season 3	46.30442193
3	229	Lost, Season 3	45.29845000
4	231	Lost, Season 2	43.95113264
5	226	Battlestar Galactica: The Story So Far	43.70416667
6	228	Heroes, Season 1	43.31903478
7	230	Lost, Season 1	43.23662400
8	254	Aquaman	41.40945000
9	261	LOST, Season 4	38.69454216
10	251	The Office, Season 3	25.54473000
11	249	The Office, Season 1	22.15323333
12	250	The Office, Season 2	21.69409545
13	50	The Final Concerts (Disc 2)	15.53490000

```
35          -- 5. کارمندی که بیشترین تعداد فروش را داشته
36    ✓    select e.EmployeeId,concat(e.FirstName,' ',e.LastName) Fullname,Count(*) TotalSales
37          from invoice i
38          join customer c on i.CustomerId =c.CustomerId
39          join employee e on c.SupportRepId =e.EmployeeId
40          group by e.EmployeeId ,Fullname
41          order by TotalSales desc
42          limit 1;
```

▶ Output   ⊞ 5. کارمندی که بیشتری...ن تعداد فروش را داشته ✕

|< < 1 row ∨ > >| ⟳ ⏲ ■ ⟰

	⊞ EmployeeId ⇕	⊞ Fullname ⇕	⊞ TotalSales ⇕
1	3	Jane Peacock	146

```
45          -- 6. کاربرانی که از بیش از یک ژانر خرید کردند
46          # همه کاربران بیش از یک ژانر خریده بودند
47    ✓    select c.CustomerId,c.FirstName,c.LastName,COUNT(DISTINCT g.GenreId) AS GenreCount
48          from invoice i
49          join invoiceline il on i.InvoiceId =il.InvoiceId
50          join track t on il.TrackId =t.TrackId
51          join genre g on t.GenreId =g.GenreId
52          join customer c on i.CustomerId =c.CustomerId
53          GROUP BY c.CustomerId, c.FirstName, c.LastName
54          HAVING COUNT(DISTINCT g.GenreId) > 1;
```

▶ Output   ⊞ # همه کاربران بیش از یک ژانر خریده بودند ✕

|< < 59 rows ∨ > >| ⟳ ⏲ ■ ⟰

	⊞ CustomerId ⇕	⊞ FirstName ⇕	⊞ LastName ⇕	⊞ GenreCount ⇕
1	1	Luís	Gonçalves	8
2	2	Leonie	Köhler	7
3	3	François	Tremblay	10
4	4	Bjørn	Hansen	8
5	5	František	Wichterlová	8
6	6	Helena	Holý	9
7	7	Astrid	Gruber	9
8	8	Daan	Peeters	4
9	9	Kara	Nielsen	5
10	10	Eduardo	Martins	7
11	11	Alexandre	Rocha	6

```sql
-- ( 7 ) سه آهنگ برتر از نظر درامد فروش برای هر ژانر
with cte as (
select row_number() over (partition by TrackId order by i.InvoiceDate) RankBySoldDate
    ,Sum(il.UnitPrice) over (partition by TrackId ) as sum_of_price
    ,il.TrackId,t.Name as TrackName,t.GenreId,g.Name as genreName
from invoiceline il
join invoice i on i.InvoiceId=il.InvoiceId
join track t on il.TrackId =t.TrackId
join genre g on t.GenreId =g.GenreId
,cte2 as (select *,ROW_NUMBER() OVER (PARTITION BY GenreId order by sum_of_price desc,RankBySoldDate desc) as Row_Num from cte)
select GenreName,Row_Num,cte2.trackid,cte2.TrackName,Sum_of_price
from cte2
where Row_Num<4;
```

Output — 7) سه آهنگ برتر از ن...امد فروش برای هر ژانر — 72 rows

GenreName	Row_Num	trackid	TrackName	Sum_of_price
1 Rock	1	2	Balls to the Wall	1.98
2 Rock	2	8	Inject The Venom	1.98
3 Rock	3	9	Snowballed	1.98
4 Jazz	1	66	Por Causa De Você	1.98
5 Jazz	2	461	Surrender	1.98
6 Jazz	3	466	J Squared	1.98

```sql
-- ( 8 ) تعداد آهنگهای فروخته شده به صورت تجمعی در هر سال به صورت جداگانه
with cte as (SELECT YEAR(i.InvoiceDate) AS Year,SUM(il.Quantity) AS TotalTracksSold
FROM invoice i
JOIN invoiceline il ON i.InvoiceId = il.InvoiceId
GROUP BY YEAR(i.InvoiceDate))
select Year,SUM(TotalTracksSold) OVER (ORDER BY Year) AS CumulativeTotalTracksSold from cte
ORDER BY Year;
```

Output — Result 10 — 5 rows

Year	CumulativeTotalTracksSold
1	2021	454
2	2022	909
3	2023	1351
4	2024	1798
5	2025	2240

```
78        -- 9. کاربرانی که مجموع خریدشان بالاتر از میانگین مجموع خرید تمام کاربران است
79   ✓   with cte as (
80        select Sum(Total) TotalPurchases,CustomerId
81        from invoice i
82        group by CustomerId )
83        select distinct c.CustomerId,c.FirstName,c.LastName,cte.TotalPurchases
84        from cte
85        join customer c on cte.CustomerId=c.CustomerId
86        where TotalPurchases > (select AVG(TotalPurchases) from cte);
87
88
89
```

▶ Output   ⊞ ✕ 9. کاربرانی که مجموع...خرید تمام کاربران است

|< < 22 rows ∨ > >| ⟳ ⏱ ◼ ⚲

	CustomerId ⇅	FirstName ⇅	LastName ⇅	TotalPurchases ⇅
1	1	Luís	Gonçalves	39.62
2	3	François	Tremblay	39.62
3	4	Bjørn	Hansen	39.62
4	5	František	Wichterlová	40.62
5	6	Helena	Holý	49.62
6	7	Astrid	Gruber	42.62
7	17	Jack	Smith	39.62
8	20	Dan	Miller	39.62
9	22	Heather	Leacock	39.62
10	24	Frank	Ralston	43.62