

# SQL SECTION

Task 1: List the top 5 customers by total purchase amount

account.

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SQLite 0.1.4 beta (Mem...)

Table

- Album
- Artist
- Customer
- demo
- Employee
- Genre
- Invoice
- InvoiceLine
- MediaType
- Playlist
- PlaylistTrack
- Track

```
1 SELECT
2   c.CustomerId,
3   c.FirstName || ' ' || c.LastName AS CustomerName,
4   SUM(i.Total) AS TotalSpent
5 FROM Customer c
6 JOIN Invoice i ON c.CustomerId = i.CustomerId
7 GROUP BY c.CustomerId
8 ORDER BY TotalSpent DESC
9 LIMIT 5;
```

CustomerId	CustomerName	TotalSpent
6	Helena Holý	49.62
26	Richard Cunningham	47.62
57	Luis Rojas	46.62
45	Ladislav Kovács	45.62
46	Hugh O'Reilly	45.62

Task 2: Most Popular Genre by Total Tracks Sold

account.

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```
1 SELECT
2   g.Name AS Genre,
3   SUM(il.Quantity) AS TotalTracksSold
4 FROM Genre g
5 JOIN Track t ON g.GenreId = t.GenreId
6 JOIN InvoiceLine il ON t.TrackId = il.TrackId
7 GROUP BY g.GenreId
8 ORDER BY TotalTracksSold DESC
9 LIMIT 1;
```

Genre	TotalTracksSold
Rock	835

### Task 3: Retrieve All Employees Who Are Managers Along with Their Subordinates

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SQLite  
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Table  
Album <  
Artist <  
Customer <  
demo <  
Employee <  
Genre <  
Invoice <  
InvoiceLine <  
MediaType <  
Playlist <  
PlaylistTrack <  
Track <  
MariaDB <

```
1 SELECT
2   manager.EmployeeId AS ManagerId,
3   manager.FirstName || ' ' || manager.LastName AS ManagerName,
4   subordinate.EmployeeId AS SubordinateId,
5   subordinate.FirstName || ' ' || subordinate.LastName AS SubordinateName
6 FROM Employee subordinate
7 JOIN Employee manager ON subordinate.ReportsTo = manager.EmployeeId
8 ORDER BY ManagerId, SubordinateId;
```

ManagerId	ManagerName	SubordinateId	SubordinateName
1	Andrew Adams	2	Nancy Edwards
1	Andrew Adams	6	Michael Mitchell
2	Nancy Edwards	3	Jane Peacock
2	Nancy Edwards	4	Margaret Park
2	Nancy Edwards	5	Steve Johnson
6	Michael Mitchell	7	Robert King
6	Michael Mitchell	8	Laura Callahan

### Task 4: For each artist, find their most sold album

This query calculates the total quantity sold for each album and picks the one with the highest for each artist.

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Table  
Album <  
Artist <  
Customer <  
demo <  
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Genre <  
Invoice <  
InvoiceLine <  
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Playlist <  
PlaylistTrack <  
Track <

```
1 WITH AlbumSales AS (
2   SELECT
3     ar.ArtistId,
4     ar.Name AS ArtistName,
5     al.AlbumId,
6     al.Title AS AlbumTitle,
7     SUM(il.Quantity) AS TotalSold
8   FROM Artist ar
9   JOIN Album al ON ar.ArtistId = al.ArtistId
10  JOIN Track t ON al.AlbumId = t.AlbumId
11  JOIN InvoiceLine il ON t.TrackId = il.TrackId
12  GROUP BY ar.ArtistId, al.AlbumId
13 );
14 RankedSales AS (
15   SELECT *,
16     RANK() OVER (PARTITION BY ArtistId ORDER BY TotalSold DESC) AS rnk
17   FROM AlbumSales
18 )
19 SELECT ArtistId, ArtistName, AlbumId, AlbumTitle, TotalSold
20 FROM RankedSales
21 WHERE rnk = 1;
```

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SQLite

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Table

Album

Artist

Customer

demo

Employee

Genre

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InvoiceLine

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Track

MariaDB

PostgreSQL

MS SQL

ArtistId	ArtistName	AlbumId	AlbumTitle	TotalSold
1	AC/DC	1	For Those About To Roc...	10
2	Accept	3	Restless and Wild	3
3	Aerosmith	5	Big Ones	10
4	Alanis Morissette	6	Jagged Little Pill	8
5	Alice In Chains	7	Facelift	7
6	Antônio Carlos Jobim	34	Chill: Brazil (Disc 2)	15
7	Apocalyptica	9	Plays Metallica By Four ...	4
8	Audioslave	10	Audioslave	6
9	BackBeat	12	BackBeat Soundtrack	6
10	Billy Cobham	13	The Best Of Billy Cobham	4
11	Black Label Society	14	Alcohol Fueled Brewtail...	5
12	Black Sabbath	17	Black Sabbath Vol. 4 (R...	7
13	Body Count	18	Body Count	11
14	Bruce Dickinson	19	Chemical Wedding	12
15	Buddy Guy	20	The Best Of Buddy Guy...	7
16	Caetano Veloso	21	Prenda Minha	19

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ArtistId	ArtistName	AlbumId	AlbumTitle	TotalSold
17	Chico Buarque	23	Minha Historia	27
18	Chico Science & Nação...	24	Afrociberdelia	16
19	Cidade Negra	26	Acústico MTV [Live]	9
20	Cláudio Zoli	28	Na Pista	5
21	Various Artists	53	Vozes do MPB	11
22	Led Zeppelin	127	BBC Sessions [Disc 2] [ ...	10
23	Frank Zappa & Captain ...	31	Bongo Fury	4
24	Marcos Valle	33	Chill: Brazil (Disc 1)	7
27	Gilberto Gil	86	Quanta Gente Veio Ver ...	13
36	O Rappa	259	Radio Brasil (O Som da ...	7
37	Ed Motta	47	The Best of Ed Motta	6
41	Elis Regina	71	Elis Regina-Minha Histó...	13
42	Milton Nascimento	158	Milton Nascimento Ao V...	8
46	Jorge Ben	122	Jorge Ben Jor 25 Anos	6
50	Metallica	149	Garage Inc. (Disc 2)	12
50	Metallica	153	ReLoad	12

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1 WITH AlbumSales AS (  
-- ----

ArtistId	ArtistName	AlbumId	AlbumTitle	TotalSold
51	Queen	36	Greatest Hits II	14
52	Kiss	37	Greatest Kiss	20
53	Spyro Gyra	38	Heart of the Night	11
54	Green Day	39	International Superhits	10
55	David Coverdale	40	Into The Light	8
56	Gonzaguinha	41	Meus Momentos	9
57	Os Mutantes	42	Minha História	8
58	Deep Purple	58	Come Taste The Band	5
58	Deep Purple	61	Knocking at Your Back ...	5
58	Deep Purple	63	Purpendicular	5
58	Deep Purple	66	The Battle Rages On	5
59	Santana	46	Supernatural	6
68	Miles Davis	157	Miles Ahead	7
69	Gene Krupa	51	Up An' Atom	17
70	Toquinho & Vinícius	52	Vinicius De Moraes - Se ...	15
72	Vinicius De Moraes	247	Vinicius De Moraes	6

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-- ----

ArtistId	ArtistName	AlbumId	AlbumTitle	TotalSold
76	Creedence Clearwater ...	55	Chronicle, Vol. 2	19
77	Cássia Eller	56	Cássia Eller - Coleção ...	12
78	Def Leppard	67	Vault: Def Leppard's Gr...	7
79	Dennis Chambers	68	Outbreak	4
80	Djavan	69	Djavan Ao Vivo - Vol. 02	9
80	Djavan	70	Djavan Ao Vivo - Vol. 1	9
81	Eric Clapton	73	Unplugged	25
82	Faith No More	74	Album Of The Year	13
82	Faith No More	75	Angel Dust	13
83	Falamansa	78	Deixa Entrar	8
84	Foo Fighters	80	In Your Honor [Disc 2]	6
84	Foo Fighters	82	The Colour And The Sh...	6
85	Frank Sinatra	83	My Way: The Best Of Fr...	10
86	Funk Como Le Gusta	84	Roda De Funk	8
87	Godsmack	88	Faceless	8
88	Guns N' Roses	91	Use Your Illusion I	17

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SQLite	ArtistId	ArtistName	AlbumId	AlbumTitle	TotalSold
	89	Incognito	93	Blue Moods	9
	90	Iron Maiden	113	The X Factor	11
	91	James Brown	115	Sex Machine	12
	92	Jamiroquai	117	Synkronized	7
	93	JET	119	Get Born	7
	94	Jimi Hendrix	120	Are You Experienced?	8
	95	Joe Satriani	121	Surfing with the Alien (R...	4
	96	Jota Quest	123	Jota Quest 1995	6
	97	João Suplicy	124	Cafezinho	6
	98	Judas Priest	125	Living After Midnight	10
	99	Legião Urbana	139	A Tempestade Tempestade ...	9
	100	Lenny Kravitz	141	Greatest Hits	26
	101	Lulu Santos	142	Lulu Santos - RCA 100 ...	8
	102	Marillion	144	Misplaced Childhood	5
	103	Marisa Monte	145	Barulhinho Bom	8
	104	Marvin Gaye	146	Seek And Shall Find: M...	10

ArtistId	ArtistName	AlbumId	AlbumTitle	TotalSold
105	Men At Work	147	The Best Of Men At Work	8
106	Motörhead	160	Ace Of Spades	6
108	Mônica Marianno	161	Demorou ...	6
109	Motley Crüe	162	Motley Crue Greatest Hits	7
110	Nirvana	163	From The Muddy Banks ...	7
111	O Terço	165	Compositores	13
112	Olodum	166	Olodum	10
113	Os Paralamas Do Sucesso	167	Acústico MTV	18
114	Ozzy Osbourne	174	Tribute	10
115	Page & Plant	175	Walking Into Clarksdale	8
116	Passengers	176	Original Soundtracks 1	9
117	Paul D'Anno	177	The Beast Live	5
118	Pearl Jam	178	Live On Two Legs [Live]	9
120	Pink Floyd	183	Dark Side Of The Moon	4
121	Planet Hemp	184	Os Cães Ladram Mas A...	9
122	R.E.M. Feat. Kate Pear...	187	Out Of Time	9

ArtistId	ArtistName	AlbumId	AlbumTitle	TotalSold
140	The Doors	214	The Doors	4
141	The Police	215	The Police Greatest Hits	7
142	The Rolling Stones	218	Voodoo Lounge	7
143	The Tea Party	219	Tangents	10
144	The Who	221	My Generation - The Ve...	19
145	Tim Maia	222	Serie Sem Limite (Disc 1)	12
145	Tim Maia	223	Serie Sem Limite (Disc 2)	12
146	Titãs	224	Acústico	22
147	Battlestar Galactica	227	Battlestar Galactica, Se...	12
148	Heroes	228	Heroes, Season 1	13
149	Lost	231	Lost, Season 2	13
150	U2	237	Rattle And Hum	17
151	UB40	241	UB40 The Best Of - Vol...	8
152	Van Halen	243	The Best Of Van Halen, ...	10
153	Velvet Revolver	246	Contraband	6
155	Zeca Pagodinho	248	Ao Vivo [IMPORT]	9

### Task 5: Monthly sales trends in the year 2013

This query groups sales data by month for 2013:

```
1 SELECT
2     strftime('%Y-%m', InvoiceDate) AS Month,
3     ROUND(SUM(Total), 2) AS MonthlySales
4 FROM Invoice
5 WHERE strftime('%Y', InvoiceDate) = '2013'
6 GROUP BY Month
7 ORDER BY Month;
8
9
```

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MariaDB  
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MS SQL

```
1 SELECT
2     strftime('%Y-%m', InvoiceDate) AS Month,
3     ROUND(SUM(Total), 2) AS MonthlySales
4 FROM Invoice
5 WHERE strftime('%Y', InvoiceDate) = '2013'
6 GROUP BY Month
7 ORDER BY Month;
```

Month	MonthlySales
2023-01	37.62
2023-02	37.62
2023-03	37.62
2023-04	51.62
2023-05	42.62
2023-06	50.62
2023-07	37.62
2023-08	37.62
2023-09	37.62
2023-10	37.62
2023-11	23.76
2023-12	37.62