

# Laboratório 6 - SQLite no R

Felipe Pedroso Popic

```
knitr::opts_chunk$set(echo = TRUE)
library(RSQLite)
```

Warning: pacote 'RSQLite' foi compilado no R versão 4.4.3

```
library(DBI)
library(dplyr)
```

Anexando pacote: 'dplyr'

Os seguintes objetos são mascarados por 'package:stats':

filter, lag

Os seguintes objetos são mascarados por 'package:base':

intersect, setdiff, setequal, union

```
fname <- file.path("disco.db")
conn <- dbConnect(SQLite(), fname)
```

```
dbListTables(conn)
```

```
[1] "albums"          "artists"          "customers"         "employees"
[5] "genres"          "invoice_items"    "invoices"          "media_types"
[9] "playlist_track"  "playlists"        "sqlite_sequence"   "sqlite_stat1"
[13] "tracks"
```

```
dbListFields(conn, "customers")
```

```
[1] "CustomerId" "FirstName"   "LastName"    "Company"     "Address"
[6] "City"        "State"       "Country"     "PostalCode"  "Phone"
[11] "Fax"         "Email"       "SupportRepId"
```

```
dbGetQuery(conn, "SELECT COUNT(*) AS total_clientes FROM customers;")
```

```
total_clientes
1              59
```

```
dbGetQuery(conn, "SELECT COUNT(DISTINCT Country) AS total_paises FROM customers;")
```

```
total_paises
1             24
```

```
dbGetQuery(conn, "
  SELECT Country, COUNT(*) AS num_clientes
  FROM customers
  GROUP BY Country
  ORDER BY num_clientes DESC;
")
```

```
Country num_clientes
1      USA           13
2    Canada           8
3    France           5
4    Brazil           5
5   Germany           4
6 United Kingdom       3
7   Portugal           2
8     India           2
9 Czech Republic       2
10   Sweden            1
11    Spain            1
12   Poland            1
13   Norway            1
14 Netherlands         1
15    Italy            1
```

16	Ireland	1
17	Hungary	1
18	Finland	1
19	Denmark	1
20	Chile	1
21	Belgium	1
22	Austria	1
23	Australia	1
24	Argentina	1

```
dbGetQuery(conn, "
  SELECT Country, COUNT(*) AS num_clientes
  FROM customers
  GROUP BY Country
  ORDER BY num_clientes DESC
  LIMIT 5;
")
```

	Country	num_clientes
1	USA	13
2	Canada	8
3	France	5
4	Brazil	5
5	Germany	4

```
dbGetQuery(conn, "
  SELECT DISTINCT Country
  FROM customers
  WHERE LENGTH(Country) = 6;
")
```

	Country
1	Brazil
2	Canada
3	Norway
4	France
5	Poland
6	Sweden

```

dbGetQuery(conn, "
  SELECT DISTINCT t.Name AS Musica
  FROM customers c
  JOIN invoices i ON c.CustomerId = i.CustomerId
  JOIN invoice_items ii ON i.InvoiceId = ii.InvoiceId
  JOIN tracks t ON ii.TrackId = t.TrackId
  WHERE c.Country = 'Brazil';
")

```

	Musica
1	Experiment In Terra
2	Take the Celestra
3	Shout It Out Loud
4	Calling Dr. Love
5	Strutter
6	Cold Gin
7	Think About You
8	Rocket Queen
9	Don't Cry (Original)
10	Back off Bitch
11	Garden of Eden
12	Coma
13	All Along The Watchtower
14	Karelia Suite, Op.11: 2. Ballade (Tempo Di Menuetto)
15	Fantasia On Greensleeves
16	Interlude Zumbi
17	Rios Pontes & Overdrives
18	Lixo Do Mangue
19	Podes Crer
20	A Cor Do Sol
21	Doutor
22	Linha Do Equador
23	TriboTchan
24	Reggae Tchan
25	Communication Breakdown(2)
26	Carolina Hard-Core Ecstasy
27	X-9 2001
28	Ipiranga 2001
29	Água de Beber
30	Vamo Batê Lata
31	Mensagen De Amor (2000)
32	Saber Amar

33	Cinema Mudo
34	Meu Erro
35	Será Que Vai Chover?
36	Mama, I'm Coming Home
37	Flying High Again
38	Paranoid
39	Admirável Gado Novo
40	Mis Penas Lloraba Yo (Ao Vivo) Soy Gitano (Tangos)
41	Drifter
42	Child In Time
43	No No No
44	Knocking At Your Back Door
45	The Unwritten Law
46	Maybe I'm A Leo
47	Vavoom : Ted The Mechanic
48	D'Yer Mak'er
49	No Quarter
50	Bittersweet Me
51	Binky The Doormat
52	So Fast, So Numb
53	Electrolite
54	Bad
55	Sweetest Thing
56	All I Want Is You
57	Like A Song...
58	Red Light
59	Babyface
60	Aces High
61	Praise
62	Down Under
63	Most High
64	Your Blue Room
65	Plot 180
66	Sanctuary
67	Untitled
68	Black
69	Big Wave
70	Cropduster
71	1/2 Full
72	Oceans
73	Dissident
74	Don't Look Back
75	Pick Myself Up

76	Any Colour You Like
77	Leper Messiah
78	Damage Inc.
79	Green Disease
80	Why Go
81	Animal
82	Leash
83	Wanted Dread And Alive
84	The Great Gig In The Sky
85	Bossa
86	Nega Do Cabelo Duro
87	You're My Best Friend
88	Seven Seas Of Rhye
89	Get Down, Make Love
90	Get Up
91	Be Mine
92	Redundant
93	Into The Light
94	Cry For Love
95	Grito De Alerta
96	Lindo Lago Do Amor
97	Ponto De Interrogação
98	Voce Nao Entende Nada - Cotidiano
99	O Leaozinho
100	Top Top
101	2 Minutes To Midnight
102	Losfer Words
103	Bora-Bora
104	I Feel Good (I Got You) - Sossego
105	Sincero Breu
106	Selvagem
107	O Descobridor Dos Sete Mares
108	Não Vou Ficar
109	Cristina Nº 2
110	O Que Me Importa
111	Eu Amo Você
112	Nosso Adeus
113	Is This Love (Live)
114	Right Next Door to Hell
115	In The Evening
116	Fool In The Rain
117	Saudade Dos Aviões Da Panair (Conversando No Bar)
118	Caso Você Queira Saber

119	Dance
120	Aos Leões
121	Demorou!
122	Home Sweet Home
123	Intro
124	Scentless Apprentice
125	In Bloom
126	On A Plain
127	Mundaréu
128	Nossa Gente (Avisa Là)
129	Revolta Olodum
130	Vai Valer
131	Vai Passar
132	Morena De Angola
133	Meu Caro Amigo
134	Mateus Enter
135	Samba Do Lado
136	Um Satélite Na Cabeça
137	Amor De Muito
138	Banditismo Por Uma Questa
139	Maracatu De Tiro Certeiro
140	Stir It Up (Live)
141	Refavela (Live)
142	Be Good Johnny
143	Down by the Sea
144	It's a Mistake
145	Shakes and Ladders
146	Eye
147	Stand Inside Your Love
148	Flower
149	Jesus Christ Pose
150	The Day I Tried To Live
151	Burden In My Hand
152	Dust N' Bones
153	Live and Let Die
154	The Memory Remains
155	The Unforgiven II
156	Slither
157	Bad Seed
158	Black Light Syndrome
159	Midnight From The Inside Out
160	Sometimes Salvation
161	Girl From A Pawnshop

162	Title Song
163	Soul Singing
164	Lay Down Sally
165	Duelists
166	Powerslave
167	Aloha
168	Será
169	Pais E Filhos
170	Rock And Roll Is Dead
171	I Belong To You
172	Casa
173	A Cura
174	Sereia
175	Heart Of Lothian: Wide Boy / Curtain Call
176	Cérebro Eletrônico
177	A Menina Dança
178	You've Been A Long Time Coming
179	Abraham, Martin And John
180	Everything I Need
181	Help Yourself
182	Suite No. 3 in D, BWV 1068: III. Gavotte I & II
183	Music for the Funeral of Queen Mary: VI. "Thou Knowest, Lord, the Secrets of Our Hearts"
184	Symphony No. 2, Op. 16 - "The Four Temperaments": II. Allegro Comodo e Flemmatico
185	String Quartet No. 12 in C Minor, D. 703 "Quartettsatz": II. Andante - Allegro assai
186	Fast As a Shark
187	Snowballed
188	Go Down
189	Hell Ain't A Bad Place To Be

```

tab_album_pais <- dbGetQuery(conn, "
  WITH AlbumCount AS (
    SELECT
      c.Country,
      al.Title AS Album,
      COUNT(*) AS qtd
    FROM customers c
    JOIN invoices i ON c.CustomerId = i.CustomerId
    JOIN invoice_items ii ON i.InvoiceId = ii.InvoiceId
    JOIN tracks t ON ii.TrackId = t.TrackId
    JOIN albums al ON t.AlbumId = al.AlbumId
    GROUP BY c.Country, al.Title
  ),

```



```

Ranked AS (
  SELECT
    Country,
    Album,
    qtd,
    ROW_NUMBER() OVER (PARTITION BY Country ORDER BY qtd DESC) AS rank
  FROM AlbumCount
)
SELECT Country, Album, qtd
FROM Ranked
WHERE rank = 1
ORDER BY Country;
")
tab_album_pais

```

	Country
1	Argentina
2	Australia
3	Austria
4	Belgium
5	Brazil
6	Canada
7	Chile
8	Czech Republic
9	Denmark
10	Finland
11	France
12	Germany
13	Hungary
14	India
15	Ireland
16	Italy
17	Netherlands
18	Norway
19	Poland
20	Portugal
21	Spain
22	Sweden
23	USA
24	United Kingdom

Album qtd

1		Acústico	4
2		The X Factor	4
3	My Generation - The Very Best Of The Who		4
4		Big Ones	4
5		Use Your Illusion I	7
6		Arquivo II	9
7	Battlestar Galactica, Season 3		3
8		Prenda Minha	5
9		Chronicle, Vol. 1	4
10		Greatest Hits	5
11		Chronicle, Vol. 1	7
12		Djavan Ao Vivo - Vol. 1	5
13		Pop	4
14		Up An' Atom	6
15		Lost, Season 2	7
16		Acústico	4
17		In Step	4
18	Cássia Eller - Coleção Sem Limite [Disc 2]		4
19		Rattle And Hum	4
20	Instant Karma: The Amnesty International Campaign to Save Darfur		4
21	My Generation - The Very Best Of The Who		5
22		Volume Dois	4
23		The Office, Season 3	14
24		Load	5

```

tab_artista_pais <- dbGetQuery(conn, "
  WITH ArtistCount AS (
    SELECT
      c.Country,
      ar.Name AS Artist,
      COUNT(*) AS qtd
    FROM customers c
    JOIN invoices i ON c.CustomerId = i.CustomerId
    JOIN invoice_items ii ON i.InvoiceId = ii.InvoiceId
    JOIN tracks t ON ii.TrackId = t.TrackId
    JOIN albums al ON t.AlbumId = al.AlbumId
    JOIN artists ar ON al.ArtistId = ar.ArtistId
    GROUP BY c.Country, ar.Name
  ),
  Ranked AS (
    SELECT
      Country,

```

```

        Artist,
        qtd,
        ROW_NUMBER() OVER (PARTITION BY Country ORDER BY qtd DESC) AS rank
    FROM ArtistCount
)
SELECT Country, Artist, qtd
FROM Ranked
WHERE rank = 1
ORDER BY Country;
")

```

tab\_artista\_pais

	Country	Artist	qtd
1	Argentina	Metallica	6
2	Australia	Iron Maiden	18
3	Austria	U2	9
4	Belgium	Faith No More	9
5	Brazil	Os Paralamas Do Sucesso	11
6	Canada	Os Paralamas Do Sucesso	16
7	Chile	Led Zeppelin	6
8	Czech Republic	Iron Maiden	9
9	Denmark	Creedence Clearwater Revival	7
10	Finland	Van Halen	6
11	France	Creedence Clearwater Revival	11
12	Germany	Iron Maiden	14
13	Hungary	Jamiroquai	5
14	India	Iron Maiden	8
15	Ireland	Lost	8
16	Italy	Faith No More	5
17	Netherlands	Red Hot Chili Peppers	6
18	Norway	Led Zeppelin	9
19	Poland	U2	6
20	Portugal	Iron Maiden	16
21	Spain	Pearl Jam	6
22	Sweden	Titãs	5
23	USA	Iron Maiden	34
24	United Kingdom	Metallica	9

dbDisconnect(conn)