Untitled

Atividade

1. (Correção 1)

```
if(!"discoCopy.db" %in% list.files()){
file.copy("./disco.db", "./discoCopy.db")
}
```

```
[1] TRUE
```

```
db = dbConnect(SQLite(), "./discoCopy.db")
```

2.

```
dbExecute(db, "CREATE TABLE instruments
              (AlbumId INTEGER,
              TrackId INTEGER,
              ElectricGuitar INTEGER,
              Singer INTEGER,
              Trumpet INTEGER)")
```

```
[1] 0
```

```
dbListFields(db, "instruments")
```

```
[1] "AlbumId"        "TrackId"        "ElectricGuitar" "Singer"
[5] "Trumpet"
```

```
## dbExecute(db, "DROP TABLE instruments")
```

```
dbExecute(db, "INSERT INTO instruments
VALUES ('85', '1075', 0, 1, 0),
('85', '1078', 0, 1, 0); ")
```

```
[1] 2
```

```
dbGetQuery(db, "SELECT * FROM instruments")
```

```
  AlbumId TrackId ElectricGuitar Singer Trumpet
1      85    1075              0      1       0
2      85    1078              0      1       0
```

```
dbWriteTable(db, "mtcars", mtcars)
dbListTables(db)
```

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

```
dbGetQuery(db, "SELECT * FROM mtcars") %>% head(3)
```

```
   mpg cyl disp  hp drat    wt  qsec vs am gear carb
1 21.0   6  160 110 3.90 2.620 16.46  0  1    4    4
2 21.0   6  160 110 3.90 2.875 17.02  0  1    4    4
3 22.8   4  108  93 3.85 2.320 18.61  1  1    4    1
```

```
theAvgCar <- mtcars %>%
  summarise_all(function(x) round(mean(x), 2))
theAvgCar
```

```
    mpg  cyl   disp     hp drat   wt  qsec   vs   am gear carb
1 20.09 6.19 230.72 146.69  3.6 3.22 17.85 0.44 0.41 3.69 2.81
```

```
dbWriteTable(db, "mtcars", theAvgCar, append = TRUE)
dbGetQuery(db, "SELECT * FROM mtcars") %>% tail(3)
```

```
     mpg  cyl   disp     hp drat   wt  qsec   vs   am gear carb
31 15.00 8.00 301.00 335.00 3.54 3.57 14.60 0.00 1.00 5.00 8.00
32 21.40 4.00 121.00 109.00 4.11 2.78 18.60 1.00 1.00 4.00 2.00
33 20.09 6.19 230.72 146.69 3.60 3.22 17.85 0.44 0.41 3.69 2.81
```

```
dbWriteTable(db, "mtcars", mtcars, overwrite = TRUE)
dbGetQuery(db, "SELECT * FROM mtcars") %>% tail(3)
```

```
    mpg cyl disp  hp drat   wt qsec vs am gear carb
30 19.7   6  145 175 3.62 2.77 15.5  0  1    5    6
31 15.0   8  301 335 3.54 3.57 14.6  0  1    5    8
32 21.4   4  121 109 4.11 2.78 18.6  1  1    4    2
```

```
res <- dbSendQuery(db, "SELECT * FROM mtcars WHERE cyl = 4")
while(!dbHasCompleted(res)){
chunk <- dbFetch(res, n = 5)
print(nrow(chunk))
}
```

```
[1] 5
[1] 5
[1] 1
```

```
dbDisconnect(db)
if("discoCopy.db" %in% list.files()){
file.remove("./discoCopy.db")
}
```

```
[1] FALSE
```

```
airports <- read_csv("./airports.csv", col_types = "ccccdd")
airlines <- read_csv("./airlines.csv", col_types = "cc")
air <- dbConnect(SQLite(), dbname="./air.db")
dbWriteTable(air, name = "airports", airports)
dbWriteTable(air, name = "airlines", airlines)
dbListTables(air)
```

```
[1] "airlines" "airports"
```

```
dbDisconnect(air)
if("air.db" %in% list.files("../dados/")){
file.remove("../dados/air.db")
}
```

```
library(RSQLite)
library(tidyverse)
library(dbplyr)
db <- dbConnect(SQLite(), "./disco.db")
# original
tracks <- tbl(db, "tracks")
# dplyr
tracks %>% head(3)
```

```
# Source:   SQL [3 x 9]
# Database: sqlite 3.43.2 [\\smb\ra260181\Downloads\main0\R\desafio07-me315-
ra260181\disco.db]
  TrackId Name          AlbumId MediaTypeId GenreId Composer Milliseconds  Bytes
    <int> <chr>           <int>       <int>   <int> <chr>           <int>  <int>
1       1 For Those Ab~       1           1       1 Angus Y~       343719 1.12e7
2       2 Balls to the~       2           2       1 <NA>           342562 5.51e6
3       3 Fast As a Sh~       3           2       1 F. Balt~       230619 3.99e6
# i 1 more variable: UnitPrice <dbl>
```

```
meanTracks <- tracks %>%
group_by(AlbumId) %>%
summarise(AvLen = mean(Milliseconds, na.rm = TRUE),
AvCost = mean(UnitPrice, na.rm = TRUE))
meanTracks
```

```
# Source:   SQL [?? x 3]
# Database: sqlite 3.43.2 [\\smb\ra260181\Downloads\main0\R\desafio07-me315-
ra260181\disco.db]
   AlbumId   AvLen AvCost
     <int>   <dbl>  <dbl>
 1       1 240042.   0.99
 2       2 342562    0.99
 3       3 286029.   0.99
 4       4 306657.   0.99
```

```
 5       5 294114.   0.99
 6       6 265456.   0.99
 7       7 270780.   0.99
 8       8 207638.   0.99
 9       9 333926.   0.99
10      10 280551.   0.99
# i more rows
```

```
meanTracks %>% show_query()
```

```
<SQL>
SELECT `AlbumId`, AVG(`Milliseconds`) AS `AvLen`, AVG(`UnitPrice`) AS `AvCost`
FROM `tracks`
GROUP BY `AlbumId`
```

```
mT <- meanTracks %>% collect()
mT
```

```
# A tibble: 347 x 3
   AlbumId   AvLen AvCost
     <int>   <dbl>  <dbl>
 1       1 240042.   0.99
 2       2 342562    0.99
 3       3 286029.   0.99
 4       4 306657.   0.99
 5       5 294114.   0.99
 6       6 265456.   0.99
 7       7 270780.   0.99
 8       8 207638.   0.99
 9       9 333926.   0.99
10      10 280551.   0.99
# i 337 more rows
```

```
dbDisconnect(db)
```