

# Visualization of a dataset - Practice 8

7 December 2021

## Objectives

1. Understand and analyze a complex dataset
2. Create visualizations starting from questions

## Tool

- Text editor
- Tableau Desktop

## Exercise

### With CSV files

A dataset about the Formula One championship is available in the file *f1db\_csv.zip*. The schema is described in the file *f1db\_user\_guide.txt*. Data are provided by Ergast (<http://ergast.com/mrd/db/>).

### With MySQL and Docker

The same dataset is also available in the Docker image `diegmonti/f1db` as MySQL database.

Install Docker and run the following command: `docker run --rm -p 3346:3306 -e MYSQL_ROOT_PASSWORD=f1db -e MYSQL_DATABASE=f1db diegmonti/f1db --default-authentication-plugin=mysql_native_password`

After a few moments, a MySQL server with the *f1db* database should be running on port 3346 of your device.

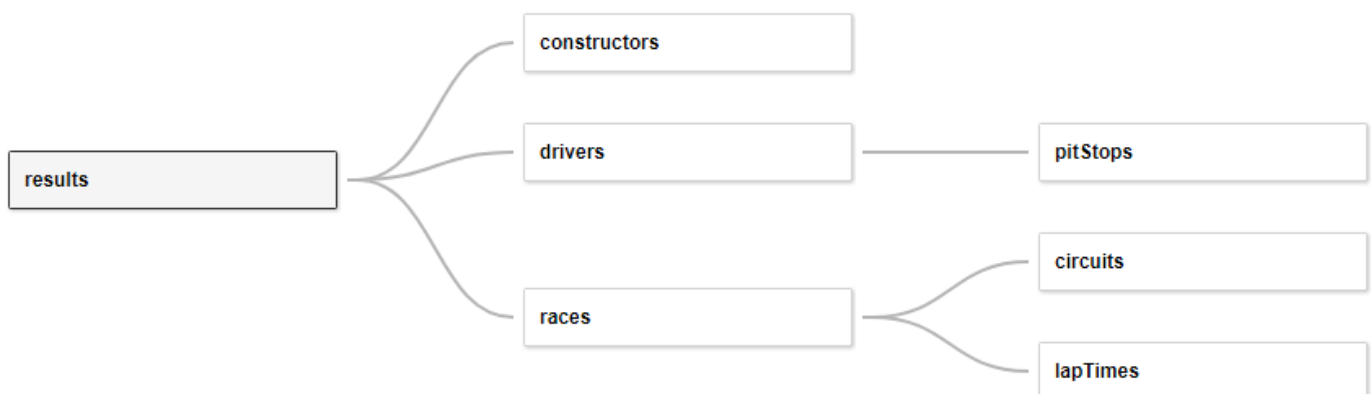
Install the MySQL drivers from <https://dev.mysql.com/downloads/connector/odbc/>.

Open Tableau Desktop and connect the MySQL database:

Field	Value
Server	localhost
Port	3346
Database	f1db
Username	root
Password	f1db

## Import the dataset

Drag the files/tables so that you create the following relationships:



### Visualization 1

- How many circuits are available per Country?

### Visualization 2

- What is the number of races per season?

### Visualization 3

- What is the number of constructors per nationality?

### Visualization 4

- What is the number of drivers per nationality?

### Visualization 5

- How many points has each constructor scored?
- In how many races do each constructor participate?

### Visualization 6

- How many points has each driver scored?
- How many poles has each driver achieved?

The number of poles can be computed with the following formula: `IF [Grid] == 1 THEN 1 ELSE 0 END.`

### Visualization 7

- What is the trend of fastest lap times over the years per circuit?

Please consider a reasonable number of circuits only.

### Visualization 8

- What is the trend of pit stop times over the years per constructor in a given circuit?

Please consider a reasonable number of constructors only.