

Project on Formula 1 Database

# Objective and Introduction

Formula 1 is one of the most popular and technologically advanced sports in the world. It is the pinnacle of motorsport/automobile technology. It is the biggest and highest degree of international racing for single-seater formula racing cars. Grand Prix is a race that is conducted all over the globe. A Grand Prix race week comprises a practice day, qualifying race day, and final race day. Together all these races are called the F1 season, governed and sanctioned by the Fédération Internationale de l’Automobile (FIA). In the race, FIA evaluates the performance of the driver and the constructor. A constructor is a group of people who design the key components of the car. At the end of a season, the FIA combines the scores made by each and awards two annual World Championships: F1 Driver Championship and Constructor Championship.

Formula1 cars consist of various mechanical, electrical, electronics, and aerodynamic parts that are mapped using about 200 sensors. Depending on the length of a circuit, on an average, F1 cars generate around 3TB of data over a race weekend, stored, processed, and used for further real-time performance analytics.

One of the major components for winning an F1 race is optimizing the car design. Constructors rely heavily upon data for optimising their design. For every race, huge data is generated and analysed for driver and design performance. Accordingly, the databases needed for storing such a huge amount of data must be fast and efficient.

A typical database design for this purpose will boil down to different components that make up F1 Racing. Data is collected for various categories, for instance, driver’s details such as full name, date of birth, nationality, driver’s jersey number, team’s data such as team name, drivers, car engine manufacturer, car chassis manufacturer, sponsors.

On the other hand, race data is tracked in terms of lap times, pitstops, qualifying race details, flags, race results, race schedule. Additionally, yearlong data on driver season standings, constructor championship, and Grand Prix results are also recorded. Moreover, each financial year data for the organization such as viewership, tickets sold, profits, sponsor data, driver’s transfer fees, team budgets are noted. This data is made public for the fans to follow teams and drivers which ultimately enhances fans engagement.

Efficient database systems are essential for F1 teams to record every single race, week after week to perform real-time analysis on it. The data on the database is utilized to take advantage of predictive analytics to prepare for the races, season, and championships. Essentially, an interconnected network of data flow is utilized by each team, where a data-driven decision-making pipeline is worked around with the data recorded at each second.

The aim of this project is to build a database which consists of information about various aspects related to Formula 1, so that data about F1 can be managed and maintained at one place and various analytical questions can be effectively and efficiently answered without any discrepancies. Using historical data available for each parameter under consideration, we will create a database and compare parameters on a foundational basis to help visualize a favourable constructor for certain circuits. The scope of the project incorporates data tables with information about various drivers, constructors, and Formula 1 seasons.

This database can be utilized for several applications such as TV channels or websites for increasing user engagement by providing statistical information in real time during a race. The designed database can be accessed by all, specifically F1 fans; furthermore, we will be focussing on creating business rules, ER diagrams and database schemas with the available data; maintenance and addition of the new data; providing useful insights and visions utilizing the available data.

# Entity Relationship Diagram

Diagram, schematic

Description automatically generated

# Business Rules

1. A race can have one or many results, a result must have exactly one race.
2. A race can have one or many constructor results, a constructor result must have exactly one race.
3. A race can have one or many driver standings, a driver standing must be generated exactly after one race.
4. A race can have one or many pit stops, a pit stop must be completed at a race.
5. A race can have one or many constructor standings, a constructor standing must have exactly one race.
6. A race can have one or many qualifying, a qualifying must be completed in one race.
7. A race can have one or many lap times, a lap time must be completed in a race.
8. A race must be a part of exactly one season, a season can have one or many races.
9. A race must be conducted at one circuit, a circuit must have exactly one race.
10. A driver can have one or many results, a result must consist of exactly one driver.
11. A driver can have one or many qualifying, a qualifying position must be awarded to exactly one driver.
12. A driver can do one or many pit stops, a pit stop must be done by one driver.
13. A driver can have one or many driver standings, a driver standing must be attributed to exactly one driver.
14. A driver can drive one or many lap times, a lap time must be posted by exactly one driver.
15. A constructor can have one or many results, a result must have exactly one constructor.
16. A constructor can have one or many constructor results, a constructor result must have exactly one constructor.
17. A constructor can have one or many constructor standings, a constructor standing must have exactly one constructor.
18. A constructor can compete in one or many qualifying, a qualifying position must be awarded to one constructor.
19. A status can have one or many results, a result must have exactly one status.

# Relational Schema

Lap\_Times

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **LapNumber** | DriverID | Race\_ID | Position | LapTime | Milliseconds |

Races

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **RaceID** | CircuitID | Year | Round | Race\_name | Date | RaceTime |

Drivers

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **DriverID** | Driver\_Ref | Driver\_Number | Code | First\_Name | Last\_Name | DOB | Nationality |

Seasons

|  |  |
| --- | --- |
| **Year** | URL |

Drivers\_Standings

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Driver\_Standings\_ID** | Race\_ID | Driver\_ID | Points | Position | Position\_Text | Wins |

Constructor\_Results

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Constructor\_Result\_ID** | Race\_ID | Constructor\_ID | Points | Status |

Qualifying

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Qualifying\_ID** | Race\_ID | Driver\_ID | Constructor\_ID | Driver\_Number | Position | Q1 | Q2 | Q3 |

Pit\_Stops

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Stop\_Number** | Race\_ID | Driver\_ID | Lap | Duration | Time | Milliseconds |

Results

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Result\_ID** | Race\_ID | Driver\_ID | Constructor\_ID | Status\_ID |
| Driver\_Number | Position | Position\_Text | Position\_Order | Points |
| Laps | Time | Fastest\_Lap | Rank | Fastest\_LapTime |
| Grid | Milliseconds | Fastest\_LapSpeed |

Status

|  |  |
| --- | --- |
| **Status\_ID** | Status |

Constructors

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Constructor\_ID** | Constructor\_Ref | Constructor\_Name | Nationality | URL |

Constructor\_Standings

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Constructor\_Standings\_ID** | Race\_ID | Constructor\_ID | Points | Positions | Wins |

Circuits

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Circuit\_ID** | Circuit\_Ref | Circuit\_Name | Location | Country | Latitude | Longitude | Altitude | URL |

Note:

* Primary Keys are denoted in Bold and Underlined.
* Foreign Keys are denoted by Dash Underline.

# Create and Insert Statements Script

/\* Constructor Table \*/

Create Table Constructor\_DB

(Constructor\_ID Number(8) not null,

Constructor\_Ref Varchar2(50),

Constructor\_Name Varchar2(100),

Nationality Varchar2(100),

Constructor\_URL varchar2(100),

Constraint Constructor\_pk Primary Key(Constructor\_ID));

---------insert data to constructor\_db

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 1, 'mclaren', 'McLaren', 'British', 'http://en.wikipedia.org/wiki/McLaren');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 2, 'bmw\_sauber', 'BMW Sauber', 'German', 'http://en.wikipedia.org/wiki/BMW\_Sauber');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 3, 'williams', 'Williams', 'British', 'http://en.wikipedia.org/wiki/Williams\_Grand\_Prix\_Engineering');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 4, 'renault', 'Renault', 'French', 'http://en.wikipedia.org/wiki/Renault\_in\_Formula\_One');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 5, 'toro\_rosso', 'Toro Rosso', 'Italian', 'http://en.wikipedia.org/wiki/Scuderia\_Toro\_Rosso');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 6, 'ferrari', 'Ferrari', 'Italian', 'http://en.wikipedia.org/wiki/Scuderia\_Ferrari');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 7, 'toyota', 'Toyota', 'Japanese', 'http://en.wikipedia.org/wiki/Toyota\_Racing');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 8, 'super\_aguri', 'Super Aguri', 'Japanese', 'http://en.wikipedia.org/wiki/Super\_Aguri\_F1');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 9, 'red\_bull', 'Red Bull', 'Austrian', 'http://en.wikipedia.org/wiki/Red\_Bull\_Racing');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 10, 'force\_india', 'Force India', 'Indian', 'http://en.wikipedia.org/wiki/Racing\_Point\_Force\_India');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 11, 'honda', 'Honda', 'Japanese', 'http://en.wikipedia.org/wiki/Honda\_Racing\_F1');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 12, 'spyker', 'Spyker', 'Dutch', 'http://en.wikipedia.org/wiki/Spyker\_F1');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 13, 'mf1', 'MF1', 'Russian', 'http://en.wikipedia.org/wiki/Midland\_F1\_Racing');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 14, 'spyker\_mf1', 'Spyker MF1', 'Dutch', 'http://en.wikipedia.org/wiki/Midland\_F1\_Racing');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 15, 'sauber', 'Sauber', 'Swiss', 'http://en.wikipedia.org/wiki/Sauber');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 16, 'bar', 'BAR', 'British', 'http://en.wikipedia.org/wiki/British\_American\_Racing');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 17, 'jordan', 'Jordan', 'Irish', 'http://en.wikipedia.org/wiki/Jordan\_Grand\_Prix');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 18, 'minardi', 'Minardi', 'Italian', 'http://en.wikipedia.org/wiki/Minardi');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 19, 'jaguar', 'Jaguar', 'British', 'http://en.wikipedia.org/wiki/Jaguar\_Racing');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 20, 'prost', 'Prost', 'French', 'http://en.wikipedia.org/wiki/Prost\_Grand\_Prix');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 21, 'arrows', 'Arrows', 'British', 'http://en.wikipedia.org/wiki/Arrows\_Grand\_Prix\_International');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 22, 'benetton', 'Benetton', 'Italian', 'http://en.wikipedia.org/wiki/Benetton\_Formula');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 23, 'brawn', 'Brawn', 'British', 'http://en.wikipedia.org/wiki/Brawn\_GP');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 24, 'stewart', 'Stewart', 'British', 'http://en.wikipedia.org/wiki/Stewart\_Grand\_Prix');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 25, 'tyrrell', 'Tyrrell', 'British', 'http://en.wikipedia.org/wiki/Tyrrell\_Racing');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 26, 'lola', 'Lola', 'British', 'http://en.wikipedia.org/wiki/MasterCard\_Lola');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 27, 'ligier', 'Ligier', 'French', 'http://en.wikipedia.org/wiki/Ligier');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 28, 'forti', 'Forti', 'Italian', 'http://en.wikipedia.org/wiki/Forti');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 29, 'footwork', 'Footwork', 'British', 'http://en.wikipedia.org/wiki/Footwork\_Arrows');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 30, 'pacific', 'Pacific', 'British', 'http://en.wikipedia.org/wiki/Pacific\_Racing');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 31, 'simtek', 'Simtek', 'British', 'http://en.wikipedia.org/wiki/Simtek');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 32, 'team\_lotus', 'Team Lotus', 'British', 'http://en.wikipedia.org/wiki/Team\_Lotus');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 33, 'larrousse', 'Larrousse', 'French', 'http://en.wikipedia.org/wiki/Larrousse');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 34, 'brabham', 'Brabham', 'British', 'http://en.wikipedia.org/wiki/Brabham');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 35, 'dallara', 'Dallara', 'Italian', 'http://en.wikipedia.org/wiki/Dallara');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 36, 'fondmetal', 'Fondmetal', 'Italian', 'http://en.wikipedia.org/wiki/Fondmetal');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 37, 'march', 'March', 'British', 'http://en.wikipedia.org/wiki/March\_Engineering');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 38, 'moda', 'Andrea Moda', 'Italian', 'http://en.wikipedia.org/wiki/Andrea\_Moda\_Formula');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 39, 'ags', 'AGS', 'French', 'http://en.wikipedia.org/wiki/Automobiles\_Gonfaronnaises\_Sportives');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 40, 'lambo', 'Lambo', 'Italian', 'http://en.wikipedia.org/wiki/Modena\_(racing\_team)');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 41, 'leyton', 'Leyton House', 'British', 'http://en.wikipedia.org/wiki/Leyton\_House');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 42, 'coloni', 'Coloni', 'Italian', 'http://en.wikipedia.org/wiki/Enzo\_Coloni\_Racing\_Car\_Systems');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 44, 'eurobrun', 'Euro Brun', 'Italian', 'http://en.wikipedia.org/wiki/Euro\_Brun');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 45, 'osella', 'Osella', 'Italian', 'http://en.wikipedia.org/wiki/Osella');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 46, 'onyx', 'Onyx', 'British', 'http://en.wikipedia.org/wiki/Onyx\_(racing\_team)');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 47, 'life', 'Life', 'Italian', 'http://en.wikipedia.org/wiki/Life\_(Racing\_Team)');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 48, 'rial', 'Rial', 'German', 'http://en.wikipedia.org/wiki/Rial\_%28racing\_team%29');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 49, 'zakspeed', 'Zakspeed', 'German', 'http://en.wikipedia.org/wiki/Zakspeed');

INSERT INTO Constructor\_DB (Constructor\_ID, Constructor\_Ref, Constructor\_Name, Nationality, Constructor\_URL) VALUES ( 50, 'ram', 'RAM', 'British', 'http://en.wikipedia.org/wiki/RAM\_Racing');

/\* Drivers Table \*/

CREATE TABLE Drivers\_DB

( Driver\_ID NUMBER(8) NOT NULL,

Driver\_Ref VARCHAR2(100),

Driver\_Number NUMBER(10),

Code VARCHAR2(200),

First\_Name VARCHAR2(200),

Last\_Name VARCHAR2(200),

Nationality VARCHAR2(200),

CONSTRAINT DRIVERS\_DB\_PK PRIMARY KEY (Driver\_ID)

);

------insert data into drivers\_db

INSERT INTO Drivers\_DB (Driver\_ID, Driver\_Ref, Driver\_Number, Code, First\_Name, Last\_Name, Nationality) VALUES ( 1, 'hamilton', 44, 'HAM', 'Lewis', 'Hamilton', 'British');

INSERT INTO Drivers\_DB (Driver\_ID, Driver\_Ref, Driver\_Number, Code, First\_Name, Last\_Name, Nationality) VALUES ( 2, 'heidfeld', NULL, 'HEI', 'Nick', 'Heidfeld', 'German');

INSERT INTO Drivers\_DB (Driver\_ID, Driver\_Ref, Driver\_Number, Code, First\_Name, Last\_Name, Nationality) VALUES ( 3, 'rosberg',NULL , 'ROS', 'Nico', 'Rosberg', 'German');

INSERT INTO Drivers\_DB (Driver\_ID, Driver\_Ref, Driver\_Number, Code, First\_Name, Last\_Name, Nationality) VALUES ( 4, 'alonso', NULL, 'ALO', 'Fernando', 'Alonso', 'Spanish');

INSERT INTO Drivers\_DB (Driver\_ID, Driver\_Ref, Driver\_Number, Code, First\_Name, Last\_Name, Nationality) VALUES ( 5, 'kovalainen', NULL, 'KOV', 'Heikki', 'Kovalainen', 'Finnish');

INSERT INTO Drivers\_DB (Driver\_ID, Driver\_Ref, Driver\_Number, Code, First\_Name, Last\_Name, Nationality) VALUES ( 6, 'nakajima', NULL, 'NAK', 'Kazuki', 'Nakajima', 'Japanese');

INSERT INTO Drivers\_DB (Driver\_ID, Driver\_Ref, Driver\_Number, Code, First\_Name, Last\_Name, Nationality) VALUES ( 7, 'bourdais', NULL, 'BOU', 'Sébastien', 'Bourdais', 'French');

INSERT INTO Drivers\_DB (Driver\_ID, Driver\_Ref, Driver\_Number, Code, First\_Name, Last\_Name, Nationality) VALUES ( 8, 'raikkonen', 7, 'RAI', 'Kimi', 'Räikkönen', 'Finnish');

INSERT INTO Drivers\_DB (Driver\_ID, Driver\_Ref, Driver\_Number, Code, First\_Name, Last\_Name, Nationality) VALUES ( 9, 'kubica', 88, 'KUB', 'Robert', 'Kubica', 'Polish');

INSERT INTO Drivers\_DB (Driver\_ID, Driver\_Ref, Driver\_Number, Code, First\_Name, Last\_Name, Nationality) VALUES ( 10, 'glock', NULL, 'GLO', 'Timo', 'Glock', 'German');

INSERT INTO Drivers\_DB (Driver\_ID, Driver\_Ref, Driver\_Number, Code, First\_Name, Last\_Name, Nationality) VALUES ( 11, 'sato', NULL, 'SAT', 'Takuma', 'Sato', 'Japanese');

INSERT INTO Drivers\_DB (Driver\_ID, Driver\_Ref, Driver\_Number, Code, First\_Name, Last\_Name, Nationality) VALUES ( 12, 'piquet\_jr', NULL, 'PIQ', 'Nelson', 'Piquet Jr.', 'Brazilian');

INSERT INTO Drivers\_DB (Driver\_ID, Driver\_Ref, Driver\_Number, Code, First\_Name, Last\_Name, Nationality) VALUES ( 13, 'massa', 19, 'MAS', 'Felipe', 'Massa', 'Brazilian');

INSERT INTO Drivers\_DB (Driver\_ID, Driver\_Ref, Driver\_Number, Code, First\_Name, Last\_Name, Nationality) VALUES ( 14, 'coulthard', NULL, 'COU', 'David', 'Coulthard', 'British');

INSERT INTO Drivers\_DB (Driver\_ID, Driver\_Ref, Driver\_Number, Code, First\_Name, Last\_Name, Nationality) VALUES ( 15, 'trulli', NULL, 'TRU', 'Jarno', 'Trulli', 'Italian');

INSERT INTO Drivers\_DB (Driver\_ID, Driver\_Ref, Driver\_Number, Code, First\_Name, Last\_Name, Nationality) VALUES ( 16, 'sutil', 99, 'SUT', 'Adrian', 'Sutil', 'German');

INSERT INTO Drivers\_DB (Driver\_ID, Driver\_Ref, Driver\_Number, Code, First\_Name, Last\_Name, Nationality) VALUES ( 17, 'webber', NULL, 'WEB', 'Mark', 'Webber', 'Australian');

INSERT INTO Drivers\_DB (Driver\_ID, Driver\_Ref, Driver\_Number, Code, First\_Name, Last\_Name, Nationality) VALUES ( 18, 'button', 22, 'BUT', 'Jenson', 'Button', 'British');

INSERT INTO Drivers\_DB (Driver\_ID, Driver\_Ref, Driver\_Number, Code, First\_Name, Last\_Name, Nationality) VALUES ( 19, 'davidson', NULL, 'DAV', 'Anthony', 'Davidson', 'British');

INSERT INTO Drivers\_DB (Driver\_ID, Driver\_Ref, Driver\_Number, Code, First\_Name, Last\_Name, Nationality) VALUES ( 20, 'vettel', 5, 'VET', 'Sebastian', 'Vettel', 'German');

/\* Circuits Table \*/

create table Circuits\_DB (

Circuit\_ID number not null constraint circuits\_db\_pk primary key,

Circuit\_Ref varchar2(100),

Circuit\_Name varchar2(100),

Circuit\_Location varchar2(100),

Country varchar2(100),

Altitude\_URL varchar2(100)

);

-------insert data into circuits\_db

INSERT INTO Circuits\_DB (Circuit\_ID, Circuit\_Ref, Circuit\_Name, Circuit\_Location, Country, Altitude\_URL) VALUES (1, 'albert\_park', 'Albert Park Grand Prix Circuit', 'Melbourne', 'Australia', '10');

INSERT INTO Circuits\_DB (Circuit\_ID, Circuit\_Ref, Circuit\_Name, Circuit\_Location, Country, Altitude\_URL) VALUES (2, 'sepang', 'Sepang International Circuit', 'Kuala Lumpur', 'Malaysia', '18');

INSERT INTO Circuits\_DB (Circuit\_ID, Circuit\_Ref, Circuit\_Name, Circuit\_Location, Country, Altitude\_URL) VALUES (3, 'bahrain', 'Bahrain International Circuit', 'Sakhir', 'Bahrain', '7');

INSERT INTO Circuits\_DB (Circuit\_ID, Circuit\_Ref, Circuit\_Name, Circuit\_Location, Country, Altitude\_URL) VALUES (4, 'catalunya', 'Circuit de Barcelona-Catalunya', 'Montmeló', 'Spain', '109');

INSERT INTO Circuits\_DB (Circuit\_ID, Circuit\_Ref, Circuit\_Name, Circuit\_Location, Country, Altitude\_URL) VALUES (5, 'istanbul', 'Istanbul Park', 'Istanbul', 'Turkey', '130');

INSERT INTO Circuits\_DB (Circuit\_ID, Circuit\_Ref, Circuit\_Name, Circuit\_Location, Country, Altitude\_URL) VALUES (6, 'monaco', 'Circuit de Monaco', 'Monte-Carlo', 'Monaco', '7');

INSERT INTO Circuits\_DB (Circuit\_ID, Circuit\_Ref, Circuit\_Name, Circuit\_Location, Country, Altitude\_URL) VALUES (7, 'villeneuve', 'Circuit Gilles Villeneuve', 'Montreal', 'Canada', '13');

INSERT INTO Circuits\_DB (Circuit\_ID, Circuit\_Ref, Circuit\_Name, Circuit\_Location, Country, Altitude\_URL) VALUES (8, 'magny\_cours', 'Circuit de Nevers Magny-Cours', 'Magny Cours', 'France', '228');

INSERT INTO Circuits\_DB (Circuit\_ID, Circuit\_Ref, Circuit\_Name, Circuit\_Location, Country, Altitude\_URL) VALUES (9, 'silverstone', 'Silverstone Circuit', 'Silverstone', 'UK', '153');

INSERT INTO Circuits\_DB (Circuit\_ID, Circuit\_Ref, Circuit\_Name, Circuit\_Location, Country, Altitude\_URL) VALUES (10, 'hockenheimring', 'Hockenheimring', 'Hockenheim', 'Germany', '103');

INSERT INTO Circuits\_DB (Circuit\_ID, Circuit\_Ref, Circuit\_Name, Circuit\_Location, Country, Altitude\_URL) VALUES (11, 'hungaroring', 'Hungaroring', 'Budapest', 'Hungary', '264');

INSERT INTO Circuits\_DB (Circuit\_ID, Circuit\_Ref, Circuit\_Name, Circuit\_Location, Country, Altitude\_URL) VALUES (12, 'valencia', 'Valencia Street Circuit', 'Valencia', 'Spain', '4');

INSERT INTO Circuits\_DB (Circuit\_ID, Circuit\_Ref, Circuit\_Name, Circuit\_Location, Country, Altitude\_URL) VALUES (13, 'spa', 'Circuit de Spa-Francorchamps', 'Spa', 'Belgium', '401');

INSERT INTO Circuits\_DB (Circuit\_ID, Circuit\_Ref, Circuit\_Name, Circuit\_Location, Country, Altitude\_URL) VALUES (14, 'monza', 'Autodromo Nazionale di Monza', 'Monza', 'Italy', '162');

INSERT INTO Circuits\_DB (Circuit\_ID, Circuit\_Ref, Circuit\_Name, Circuit\_Location, Country, Altitude\_URL) VALUES (15, 'marina\_bay', 'Marina Bay Street Circuit', 'Marina Bay', 'Singapore', '18');

INSERT INTO Circuits\_DB (Circuit\_ID, Circuit\_Ref, Circuit\_Name, Circuit\_Location, Country, Altitude\_URL) VALUES (16, 'fuji', 'Fuji Speedway', 'Oyama', 'Japan', '583');

INSERT INTO Circuits\_DB (Circuit\_ID, Circuit\_Ref, Circuit\_Name, Circuit\_Location, Country, Altitude\_URL) VALUES (17, 'shanghai', 'Shanghai International Circuit', 'Shanghai', 'China', '5');

INSERT INTO Circuits\_DB (Circuit\_ID, Circuit\_Ref, Circuit\_Name, Circuit\_Location, Country, Altitude\_URL) VALUES (18, 'interlagos', 'Autódromo José Carlos Pace', 'São Paulo', 'Brazil', '785');

INSERT INTO Circuits\_DB (Circuit\_ID, Circuit\_Ref, Circuit\_Name, Circuit\_Location, Country, Altitude\_URL) VALUES (19, 'indianapolis', 'Indianapolis Motor Speedway', 'Indianapolis', 'USA', '223');

INSERT INTO Circuits\_DB (Circuit\_ID, Circuit\_Ref, Circuit\_Name, Circuit\_Location, Country, Altitude\_URL) VALUES (20, 'nurburgring', 'Nürburgring', 'Nürburg', 'Germany', '578');

INSERT INTO Circuits\_DB (Circuit\_ID, Circuit\_Ref, Circuit\_Name, Circuit\_Location, Country, Altitude\_URL) VALUES (21, 'imola', 'Autodromo Enzo e Dino Ferrari', 'Imola', 'Italy', '37');

/\* Status Table \*/

CREATE TABLE Status\_DB

( Status\_ID NUMBER(8) NOT NULL,

Status\_Status VARCHAR2(200) ,

CONSTRAINT status\_pk PRIMARY KEY (Status\_ID));

-----insert data into status\_db

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (1, 'Finished');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (2, 'Disqualified');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (3, 'Accident');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (4, 'Collision');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (5, 'Engine');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (6, 'Gearbox');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (7, 'Transmission');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (8, 'Clutch');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (9, 'Hydraulics');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (10, 'Electrical');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (11, '+1 Lap');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (12, '+2 Laps');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (13, '+3 Laps');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (14, '+4 Laps');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (15, '+5 Laps');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (16, '+6 Laps');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (17, '+7 Laps');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (18, '+8 Laps');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (19, '+9 Laps');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (20, 'Spun off');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (21, 'Radiator');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (22, 'Suspension');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (23, 'Brakes');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (24, 'Differential');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (25, 'Overheating');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (26, 'Mechanical');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (27, 'Tyre');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (28, 'Driver Seat');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (29, 'Puncture');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (30, 'Driveshaft');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (31, 'Retired');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (32, 'Fuel pressure');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (33, 'Front wing');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (34, 'Water pressure');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (35, 'Refuelling');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (36, 'Wheel');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (37, 'Throttle');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (38, 'Steering');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (39, 'Technical');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (40, 'Electronics');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (41, 'Broken wing');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (42, 'Heat shield fire');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (43, 'Exhaust');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (44, 'Oil leak');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (45, '+11 Laps');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (46, 'Wheel rim');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (47, 'Water leak');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (48, 'Fuel pump');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (49, 'Track rod');

INSERT INTO Status\_DB (Status\_ID,Status\_Status) VALUES (50, '+17 Laps');

/\* Seasons Table \*/

CREATE TABLE Seasons\_DB

( Seasons\_Year NUMBER(8) NOT NULL,

Seasons\_URL VARCHAR2(200) ,

CONSTRAINT seasons\_pk PRIMARY KEY (Seasons\_Year));

--------Insert data into seasons\_db

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (2009, 'https://en.wikipedia.org/wiki/2009\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (2008, 'https://en.wikipedia.org/wiki/2008\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (2007, 'https://en.wikipedia.org/wiki/2007\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (2006, 'https://en.wikipedia.org/wiki/2006\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (2005, 'https://en.wikipedia.org/wiki/2005\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (2004, 'https://en.wikipedia.org/wiki/2004\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (2003, 'https://en.wikipedia.org/wiki/2003\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (2002, 'https://en.wikipedia.org/wiki/2002\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (2001, 'https://en.wikipedia.org/wiki/2001\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (2000, 'https://en.wikipedia.org/wiki/2000\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (1999, 'https://en.wikipedia.org/wiki/1999\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (1998, 'https://en.wikipedia.org/wiki/1998\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (1997, 'https://en.wikipedia.org/wiki/1997\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (1996, 'https://en.wikipedia.org/wiki/1996\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (1995, 'https://en.wikipedia.org/wiki/1995\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (1994, 'https://en.wikipedia.org/wiki/1994\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (1993, 'https://en.wikipedia.org/wiki/1993\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (1992, 'https://en.wikipedia.org/wiki/1992\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (1991, 'https://en.wikipedia.org/wiki/1991\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (1990, 'https://en.wikipedia.org/wiki/1990\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (2010, 'https://en.wikipedia.org/wiki/2010\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (1989, 'https://en.wikipedia.org/wiki/1989\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (1988, 'https://en.wikipedia.org/wiki/1988\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (1987, 'https://en.wikipedia.org/wiki/1987\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (1986, 'https://en.wikipedia.org/wiki/1986\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (1985, 'https://en.wikipedia.org/wiki/1985\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (1984, 'https://en.wikipedia.org/wiki/1984\_Formula\_One\_season');

INSERT INTO Seasons\_DB (Seasons\_Year, Seasons\_URL) VALUES (1983, 'https://en.wikipedia.org/wiki/1983\_Formula\_One\_season');

/\* Races Table \*/

create table Races\_DB (

Race\_ID number not null constraint Races\_db\_pk primary key,

Circuit\_ID number ,

Seasons\_Year number ,

Races\_Round number,

Race\_Name varchar2(200),

FOREIGN KEY (Circuit\_ID) References Circuits\_DB (Circuit\_ID),

FOREIGN KEY (Seasons\_Year) References Seasons\_DB (Seasons\_Year)

);

-------------insert data into races\_db

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (1, 1, 2009, 1, 'Australian Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (2, 2, 2009, 2, 'Malaysian Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (3, 17, 2009, 3, 'Chinese Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (4, 3, 2009, 4, 'Bahrain Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (5, 4, 2009, 5, 'Spanish Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (6, 6, 2009, 6, 'Monaco Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (7, 5, 2009, 7, 'Turkish Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (8, 9, 2009, 8, 'British Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (9, 20, 2009, 9, 'German Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (10, 11, 2009, 10, 'Hungarian Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (11, 12, 2009, 11, 'European Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (12, 13, 2009, 12, 'Belgian Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (13, 14, 2009, 13, 'Italian Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (14, 15, 2009, 14, 'Singapore Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (15, 19, 2009, 15, 'Japanese Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (16, 18, 2009, 16, 'Brazilian Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (17, 20, 2009, 17, 'Abu Dhabi Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (18, 1, 2008, 1, 'Australian Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (19, 2, 2008, 2, 'Malaysian Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (20, 3, 2008, 3, 'Bahrain Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (21, 4, 2008, 4, 'Spanish Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (22, 5, 2008, 5, 'Turkish Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (23, 6, 2008, 6, 'Monaco Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (24, 7, 2008, 7, 'Canadian Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (25, 8, 2008, 8, 'French Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (26, 9, 2008, 9, 'British Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (27, 10, 2008, 10, 'German Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (28, 11, 2008, 11, 'Hungarian Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (29, 12, 2008, 12, 'European Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (30, 13, 2008, 13, 'Belgian Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (31, 14, 2008, 14, 'Italian Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (32, 15, 2008, 15, 'Singapore Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (33, 16, 2008, 16, 'Japanese Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (34, 17, 2008, 17, 'Chinese Grand Prix');

INSERT INTO Races\_DB (Race\_ID, Circuit\_ID, Seasons\_Year, Races\_Round, Race\_Name ) VALUES (35, 18, 2008, 18, 'Brazilian Grand Prix');

/\* Qualifying Table \*/

Create Table Qualifying\_DB

(Qualifying\_ID Number(8) not null,

Race\_ID Number(8),

Driver\_ID Number(8),

Constructor\_ID Number(8),

Driver\_Number Number(8),

Qualifying\_Position Number(8),

Constraint Qualifying\_pk Primary Key(Qualifying\_ID),

Foreign Key (Race\_ID) References Races\_DB (Race\_ID),

Foreign Key (Driver\_ID) References Drivers\_DB (Driver\_ID),

Foreign Key (Constructor\_ID) References Constructor\_DB (Constructor\_ID));

----------insert data into qualifying table

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (1, 18, 1, 1, 22, 1);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (2, 18, 9, 2, 4, 2);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (3, 18, 5, 1, 23, 3);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (4, 18, 13, 6, 2, 4);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (5, 18, 2, 2, 3, 5);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (6, 18, 15, 7, 11, 6);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (7, 18, 3, 3, 7, 7);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (8, 18, 14, 9, 9, 8);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (9, 18, 10, 7, 12, 9);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (10, 18, 20, 5, 15, 10);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (11, 18, 20, 11, 17, 11);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (12, 18, 4, 4, 5, 12);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (13, 18, 18, 11, 16, 13);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (14, 18, 6, 3, 8, 14);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (15, 18, 17, 9, 10, 15);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (16, 18, 8, 6, 1, 16);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (17, 18, 20, 10, 21, 17);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (18, 18, 7, 5, 14, 18);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (19, 18, 16, 10, 20, 19);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (20, 18, 11, 8, 18, 20);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (21, 18, 12, 4, 6, 21);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (22, 18, 19, 8, 19, 22);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (23, 19, 13, 6, 2, 1);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (24, 19, 8, 6, 1, 2);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (25, 19, 5, 1, 23, 3);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (26, 19, 1, 1, 22, 4);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (27, 19, 15, 7, 11, 5);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (28, 19, 9, 2, 4, 6);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (29, 19, 2, 2, 3, 7);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (30, 19, 17, 9, 10, 8);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (31, 19, 4, 4, 5, 9);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (32, 19, 10, 7, 12, 10);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (33, 19, 18, 11, 16, 11);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (34, 19, 14, 9, 9, 12);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (35, 19, 12, 4, 6, 13);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (36, 19, 20, 11, 17, 14);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (37, 19, 20, 5, 15, 15);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (38, 19, 3, 3, 7, 16);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (39, 19, 20, 10, 21, 17);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (40, 19, 6, 3, 8, 18);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (41, 19, 7, 5, 14, 19);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (42, 19, 11, 8, 18, 20);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (43, 19, 16, 10, 20, 21);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (44, 19, 19, 8, 19, 22);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (45, 20, 9, 2, 4, 1);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (46, 20, 13, 6, 2, 2);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (47, 20, 1, 1, 22, 3);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (48, 20, 8, 6, 1, 4);

INSERT INTO Qualifying\_DB (Qualifying\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Qualifying\_Position ) VALUES (49, 20, 5, 1, 23, 5);

/\* Pit\_Stops Table \*/

Create Table Pit\_Stops\_DB

(Stop\_Number Number(8) not null,

Race\_ID Number(8),

Driver\_ID Number(8),

Lap Number(8),

Pit\_Stops\_Duration Varchar2(50),

Milliseconds Varchar2(50),

Foreign Key (Race\_ID) References Races\_DB (Race\_ID),

Foreign Key (Driver\_ID) References Drivers\_DB (Driver\_ID));

------------insert data into pit\_stops\_db

INSERT INTO Pit\_Stops\_DB (Stop\_Number, Race\_ID, Driver\_ID, Lap, Pit\_Stops\_Duration, Milliseconds ) VALUES (1, 1, 3, 1, '26.898','26898');

INSERT INTO Pit\_Stops\_DB (Stop\_Number, Race\_ID, Driver\_ID, Lap, Pit\_Stops\_Duration, Milliseconds ) VALUES (1, 10, 10, 1, '25.021','25021');

INSERT INTO Pit\_Stops\_DB (Stop\_Number, Race\_ID, Driver\_ID, Lap, Pit\_Stops\_Duration, Milliseconds ) VALUES (1, 11, 17, 11, '23.426','23426');

INSERT INTO Pit\_Stops\_DB (Stop\_Number, Race\_ID, Driver\_ID, Lap, Pit\_Stops\_Duration, Milliseconds ) VALUES (1, 12, 4, 12, '23.251','23251');

INSERT INTO Pit\_Stops\_DB (Stop\_Number, Race\_ID, Driver\_ID, Lap, Pit\_Stops\_Duration, Milliseconds ) VALUES (1, 13, 13, 13, '23.842','23842');

INSERT INTO Pit\_Stops\_DB (Stop\_Number, Race\_ID, Driver\_ID, Lap, Pit\_Stops\_Duration, Milliseconds ) VALUES (1, 14, 20, 13, '23.643','23643');

INSERT INTO Pit\_Stops\_DB (Stop\_Number, Race\_ID, Driver\_ID, Lap, Pit\_Stops\_Duration, Milliseconds ) VALUES (1, 15, 19, 14, '22.603','22603');

INSERT INTO Pit\_Stops\_DB (Stop\_Number, Race\_ID, Driver\_ID, Lap, Pit\_Stops\_Duration, Milliseconds ) VALUES (1, 16, 20, 14, '24.863','24863');

INSERT INTO Pit\_Stops\_DB (Stop\_Number, Race\_ID, Driver\_ID, Lap, Pit\_Stops\_Duration, Milliseconds ) VALUES (1, 17, 15, 14, '25.259','25259');

INSERT INTO Pit\_Stops\_DB (Stop\_Number, Race\_ID, Driver\_ID, Lap, Pit\_Stops\_Duration, Milliseconds ) VALUES (2, 14, 18, 11, '25.342','25342');

/\* Constructor\_Standings Table \*/

Create Table Constructor\_Standings\_DB

(

Constructor\_Standings\_ID Number(8) not null,

Race\_ID Number(8),

Constructor\_ID Number(8),

Positions Number(8),

Wins Number(8),

Constraint Constructor\_Standings\_pk Primary Key (Constructor\_Standings\_ID),

Foreign Key (Race\_ID) References Races\_DB (Race\_ID),

Foreign Key (Constructor\_ID) References Constructor\_DB (Constructor\_ID)

);

----------------insert data into Constructor\_Standings\_DB

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (1, 18, 1, 1,1);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (2, 18, 2, 3,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (3, 18, 3, 2,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (4, 18, 4, 4,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (5, 18, 5, 5,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (6, 18, 6, 6,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (7, 19, 1, 1,1);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (8, 19, 2, 2,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (9, 19, 3, 4,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (10, 19, 4, 5,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (11, 19, 5, 8,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (12, 19, 6, 3,1);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (13, 19, 7, 6,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (14, 19, 9, 7,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (15, 19, 11, 9,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (16, 19, 10, 10,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (17, 19, 8, 11,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (18, 20, 1, 3,1);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (19, 20, 2, 1,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (20, 20, 3, 4,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (21, 20, 4, 6,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (22, 20, 5, 8,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (23, 20, 6, 2,2);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (24, 20, 7, 5,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (25, 20, 9, 7,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (26, 20, 11, 9,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (27, 20, 10, 10,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (28, 20, 8, 11,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (29, 21, 1, 3,1);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (30, 21, 2, 2,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (31, 21, 3, 4,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (32, 21, 4, 7,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (33, 21, 5, 9,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (34, 21, 6, 1,3);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (35, 21, 7, 5,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (36, 21, 9, 6,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (37, 21, 11, 8,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (38, 21, 10, 10,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (39, 21, 8, 11,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (40, 22, 1, 3,1);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (41, 22, 2, 2,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (42, 22, 3, 4,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (43, 22, 4, 7,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (44, 22, 5, 9,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (45, 22, 6, 1,4);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (46, 22, 7, 6,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (47, 22, 9, 5,0);

INSERT INTO Constructor\_Standings\_DB ( Constructor\_Standings\_ID, Race\_ID, Constructor\_ID, Positions, Wins) VALUES (48, 22, 11, 8,0);

/\* Driver\_Standings table \*/

CREATE TABLE Driver\_Standings\_DB

( Driver\_Standings\_ID NUMBER(8) NOT NULL,

Race\_ID NUMBER(8) ,

Driver\_ID NUMBER(8) ,

Points NUMBER(8),

Driver\_Standings\_Position NUMBER(8),

Position\_Text NUMBER(8) ,

Wins NUMBER(8),

CONSTRAINT driver\_standings\_pk PRIMARY KEY (Driver\_Standings\_ID),

FOREIGN KEY (Race\_ID) REFERENCES Races\_DB (Race\_ID),

FOREIGN KEY (Driver\_ID) REFERENCES Drivers\_DB (Driver\_ID));

--------insert data into Driver\_Standings\_DB

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (1, 18, 1, 10,1, 1, 1 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (2, 18, 2, 8,2, 2, 0 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (3, 18, 3, 6,3, 3, 0 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (4, 18, 4, 5,4, 4, 0 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (5, 18, 5, 4,5, 5, 0 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (6, 18, 6, 3,6, 6, 0 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (7, 18, 7, 2,7, 7, 0 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (8, 18, 8, 1,8, 8, 0 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (9, 19, 1, 14,1, 1, 1 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (10, 19, 2, 11,3, 3, 0 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (11, 19, 3, 6,6, 6, 0 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (12, 19, 4, 6,7, 7, 0 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (13, 19, 5, 10,4, 4, 0 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (14, 19, 6, 3,9, 9, 0 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (15, 19, 7, 2,10, 10, 0 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (16, 19, 8, 11,2, 2, 1 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (17, 19, 9, 8,5, 5, 0 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (18, 19, 15, 5,8, 8, 0 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (19, 19, 17, 2,11, 11, 0 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (20, 19, 14, 0,12, 12, 0 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (21, 19, 18, 0,13, 13, 0 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (22, 19, 12, 0,14, 14, 0 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (23, 19, 20, 0,15, 15, 0 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (24, 19, 20, 0,16, 16, 0 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (25, 19, 19, 0,17, 17, 0 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (26, 19, 11, 0,18, 18, 0 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (27, 20, 1, 14,3, 3, 1 );

INSERT INTO Driver\_Standings\_DB ( Driver\_Standings\_ID, Race\_ID, Driver\_ID, Points , Driver\_Standings\_Position, Position\_Text, Wins) VALUES (28, 20, 2, 16,2, 2, 0 );

/\* Constructor\_Results table \*/

CREATE TABLE Constructor\_Results\_DB

( Constructor\_Result\_ID NUMBER(8) NOT NULL,

Race\_ID NUMBER(8) ,

Constructor\_ID NUMBER(8) ,

Points NUMBER(8),

Constructor\_Results\_Status VARCHAR2(10),

CONSTRAINT constructor\_results\_pk PRIMARY KEY (Constructor\_Result\_ID),

FOREIGN KEY (Race\_ID) REFERENCES Races\_DB (Race\_ID),

FOREIGN KEY (Constructor\_ID) REFERENCES Constructor\_DB (Constructor\_ID));

-------------insert data into Constructor\_Results\_DB

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (1, 18, 1, 14,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (2, 18, 2, 8,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (3, 18, 3, 9,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (4, 18, 4, 5,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (5, 18, 5, 2,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (6, 18, 6, 1,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (7, 18, 7, 0,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (8, 18, 8, 0,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (9, 18, 9, 0,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (10, 18, 10, 0,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (11, 18, 11, 0,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (12, 19, 6, 10,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (13, 19, 2, 11,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (14, 19, 1, 10,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (15, 19, 7, 5,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (16, 19, 9, 2,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (17, 19, 4, 1,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (18, 19, 11, 0,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (19, 19, 10, 0,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (20, 19, 3, 0,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (21, 19, 8, 0,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (22, 19, 5, 0,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (23, 20, 6, 18,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (24, 20, 2, 11,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (25, 20, 1, 4,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (26, 20, 7, 3,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (27, 20, 9, 2,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (28, 20, 3, 1,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (29, 20, 4, 0,'\N' );

INSERT INTO Constructor\_Results\_DB ( Constructor\_Result\_ID, Race\_ID, Constructor\_ID, Points, Constructor\_Results\_Status) VALUES (30, 20, 11, 0,'\N' );

/\* Results Table \*/

CREATE TABLE Results\_DB

( Results\_ID NUMBER(8) NOT NULL,

Race\_ID NUMBER(8) ,

Driver\_ID NUMBER(8),

Constructor\_ID NUMBER(8),

Driver\_Number NUMBER(8),

Results\_Position NUMBER(8),

Results\_Position\_Text VARCHAR2(50),

Position\_Order NUMBER(8),

Results\_Points NUMBER(8),

Results\_Laps NUMBER(8),

CONSTRAINT results\_pk PRIMARY KEY (Results\_ID),

FOREIGN KEY (Race\_ID) REFERENCES Races\_DB (Race\_ID),

FOREIGN KEY (Driver\_ID) REFERENCES Drivers\_DB (Driver\_ID),

FOREIGN KEY (Constructor\_ID) REFERENCES Constructor\_DB (Constructor\_ID));

--------insert data into Results\_DB

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (1, 18, 1, 1,22, 1, '1', 1, 10, 58 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (2, 18, 2, 2,3, 2, '2', 2, 8, 58 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (3, 18, 3, 3,7, 3, '3', 3, 6, 58 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (4, 18, 4, 4,5, 4, '4', 4, 5, 58 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (5, 18, 5, 1,23, 5, '5', 5, 4, 58 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (6, 18, 6, 3,8, 6, '6', 6, 3, 57 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (7, 18, 7, 5,14, 7, '7', 7, 2, 55 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (8, 18, 8, 6,1, 8, '8', 8, 1, 53 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (9, 18, 9, 2,4, NULL, 'R', 9, 0, 47 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (10, 18, 10, 7,12, NULL, 'R', 10, 0, 43 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (11, 18, 11, 8,18, NULL, 'R', 11, 0, 32 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (12, 18, 12, 4,6, NULL, 'R', 12, 0, 30 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (13, 18, 13, 6,2, NULL, 'R', 13, 0, 29 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (14, 18, 14, 9,9, NULL, 'R', 14, 0, 25 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (15, 18, 15, 7,11, NULL, 'R', 15, 0, 19 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (16, 18, 16, 10,20, NULL, 'R', 16, 0, 8 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (17, 18, 17, 9,10, NULL, 'R', 17, 0, 0 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (18, 18, 18, 11,16, NULL, 'R', 18, 0, 0 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (19, 18, 19, 8,19, NULL, 'R', 19, 0, 0 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (20, 18, 20, 5,15, NULL, 'R', 20, 0, 0 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (21, 18, 20, 10,21, NULL, 'R', 21, 0, 0 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (22, 18, 20, 11,17, NULL, 'D', 22, 0, 58 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (23, 19, 8, 6,1, 1, '1', 1, 10, 56 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (24, 19, 9, 2,4, 2, '2', 2, 8, 56 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (25, 19, 5, 1,23, 3, '3', 3, 6, 56 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (26, 19, 15, 7,11, 4, '4', 4, 5, 56 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (27, 19, 1, 1,22, 5, '5', 5, 4, 56 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (28, 19, 2, 2,3, 6, '6', 6, 3, 56 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (29, 19, 17, 9,10, 7, '7', 7, 2, 56 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (30, 19, 4, 4,5, 8, '8', 8, 1, 56 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (31, 19, 14, 9,9, 9, '9', 9, 0, 56 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (32, 19, 18, 11,16, 10, '10', 10, 0, 56 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (33, 19, 12, 4,6, 11, '11', 11, 0, 56 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (34, 19, 20, 10,21, 12, '12', 12, 0, 55 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (35, 19, 20, 11,17, 13, '13', 13, 0, 55 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (36, 19, 3, 3,7, 14, '14', 14, 0, 55 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (37, 19, 19, 8,19, 15, '15', 15, 0, 55 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (38, 19, 11, 8,18, 16, '16', 16, 0, 54 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (39, 19, 6, 3,8, 17, '17', 17, 0, 54 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (40, 19, 20, 5,15, NULL, 'R', 18, 0, 39 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (41, 19, 13, 6,2, NULL, 'R', 19, 0, 30 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (42, 19, 16, 10,20, NULL, 'R', 20, 0, 5 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (43, 19, 10, 7,12, NULL, 'R', 21, 0, 1 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (44, 19, 7, 5,14, NULL, 'R', 22, 0, 0 );

INSERT INTO Results\_DB ( Results\_ID, Race\_ID, Driver\_ID, Constructor\_ID, Driver\_Number, Results\_Position, Results\_Position\_Text, Position\_Order, Results\_Points, Results\_Laps) VALUES (45, 20, 13, 6,2, 1, '1', 1, 10, 57 );

/\* Lap Times Table \*/

CREATE TABLE Lap\_Times

( Lap\_Number NUMBER(8) NOT NULL,

Driver\_ID NUMBER(8),

Race\_ID NUMBER(8),

Lap\_Position NUMBER(8),

CONSTRAINT LAP\_TIMES\_DB\_PK PRIMARY KEY (Lap\_Number),

FOREIGN KEY (Driver\_ID) References Drivers\_DB (Driver\_ID),

FOREIGN KEY (Race\_ID) References Races\_DB (Race\_ID)

);

--------insert data into lap\_times

INSERT INTO Lap\_Times ( Lap\_Number, Driver\_ID, Race\_ID, Lap\_Position) VALUES (1, 20, 1, 1 );

INSERT INTO Lap\_Times ( Lap\_Number, Driver\_ID, Race\_ID, Lap\_Position) VALUES (2, 20, 2, 1 );

INSERT INTO Lap\_Times ( Lap\_Number, Driver\_ID, Race\_ID, Lap\_Position) VALUES (3, 20, 3, 1 );

INSERT INTO Lap\_Times ( Lap\_Number, Driver\_ID, Race\_ID, Lap\_Position) VALUES (4, 20, 4, 1 );

INSERT INTO Lap\_Times ( Lap\_Number, Driver\_ID, Race\_ID, Lap\_Position) VALUES (5, 20, 5, 1 );

INSERT INTO Lap\_Times ( Lap\_Number, Driver\_ID, Race\_ID, Lap\_Position) VALUES (6, 20, 6, 1 );

INSERT INTO Lap\_Times ( Lap\_Number, Driver\_ID, Race\_ID, Lap\_Position) VALUES (7, 20, 7, 1 );

INSERT INTO Lap\_Times ( Lap\_Number, Driver\_ID, Race\_ID, Lap\_Position) VALUES (8, 20, 8, 1 );

INSERT INTO Lap\_Times ( Lap\_Number, Driver\_ID, Race\_ID, Lap\_Position) VALUES (9, 20, 9, 1 );

INSERT INTO Lap\_Times ( Lap\_Number, Driver\_ID, Race\_ID, Lap\_Position) VALUES (10, 20, 10, 1 );

There are 13 tables in this database: Results, races, drivers, driver\_standings, constructor, constructor\_standings, Seasons, status, pitstops, lap\_times, qualifying, constructor\_results, circuits

# SQL Queries:

1. Display the driver who stood first in the 2008 season

select \* from

drivers\_db where driver\_id =

(

select \* from

(

select d.driver\_id from

drivers\_db d inner join driver\_standings\_db ds on d.driver\_id=ds.driver\_id

inner join races\_db r on r.race\_id=ds.race\_id

where r.seasons\_year=2008

group by d.driver\_id

order by sum(ds.points) desc

) where rownum<=1

);

Graphical user interface, text, application, email

Description automatically generated

1. Display the details of the driver who qualified at 7th position at the Australian Grand Prix in 2008

select \* from

drivers\_db d inner join driver\_standings\_db ds on d.driver\_id=ds.driver\_id

inner join races\_db r on r.race\_id=ds.race\_id

where r.seasons\_year=2008 and r.race\_name='Australian Grand Prix' and ds.driver\_standings\_position = 7;

Graphical user interface, text, application

Description automatically generated

1. List the drivers who won in the 2008 season

select \* from

drivers\_db d full outer join driver\_standings\_db ds on d.driver\_id=ds.driver\_id

full outer join races\_db r on r.race\_id=ds.race\_id

where seasons\_year=2008 and wins!=0;

Table

Description automatically generated

1. List all the drivers who took part in the 2008 season

select \* from

drivers\_db where driver\_id in

(

select distinct(d.driver\_id) from

drivers\_db d inner join driver\_standings\_db ds on d.driver\_id=ds.driver\_id

inner join races\_db r on r.race\_id=ds.race\_id

where r.seasons\_year=2008

);

Table

Description automatically generated

1. Display full name of Finnish drivers in the 2008 and 2009 seasons

select distinct(concat(first\_name, concat(' ', last\_name))) as "Full Name" from

drivers\_db d full outer join driver\_standings\_db ds on d.driver\_id=ds.driver\_id

full outer join races\_db r on r.race\_id=ds.race\_id

where seasons\_year in (2008,2009) and nationality='Finnish';

Graphical user interface, text, application, email

Description automatically generated

1. List drivers who completed all 58 laps at the 2008 Australian GP

select \* from

drivers\_db d inner join results\_db re on d.driver\_id=re.driver\_id

inner join races\_db r on r.race\_id=re.race\_id

where seasons\_year = 2008 and race\_name='Australian Grand Prix' and results\_laps=58;

Graphical user interface, application, table

Description automatically generated with medium confidence

1. List all constructors that took part in the 2008 season

select \* from

constructor\_db where constructor\_id in

(

select distinct(cs.constructor\_id) from

constructor\_db c inner join constructor\_standings\_db cs

on c.constructor\_id=cs.constructor\_id

inner join races\_db r on r.race\_id=cs.race\_id

where seasons\_year=2008);

Graphical user interface, application, table

Description automatically generated

1. Give the details of the driver and rank their qualifying positions at each race.

select b.driver\_id, d.first\_name, d.last\_name, b.\*

from drivers\_db d

inner join (

select qualifying\_db.\*, rank() over(partition by driver\_id order by qualifying\_position) as "RANK"

from qualifying\_db

)b on d.driver\_id=b.driver\_id

order by b.driver\_id;

Table

Description automatically generated

1. How many constructors scored more than 5 points in 2008?

select \* from

constructor\_db c inner join

(

select constructor\_id, sum(results\_points) as points

from results\_db

group by constructor\_id

having sum(results\_points) > 5

)d on c.constructor\_id=d.constructor\_id

order by points desc;

Graphical user interface, text, application

Description automatically generated

1. How many wins did Hamilton achieve in 2008?

select d.driver\_id, d.first\_name, d.last\_name, sum(ds.wins) as total\_wins

from drivers\_db d inner join driver\_standings\_db ds on d.driver\_id=ds.driver\_id

where ds.driver\_id=1

group by d.driver\_id, d.first\_name, d.last\_name

order by sum(ds.wins) desc;

Graphical user interface, text, application, email

Description automatically generated

1. Did Abu Dhabi Grand Prix take place in 2008?

select \* from races\_db

where seasons\_year=2008 and race\_name='Abu Dhabi Grand Prix';

Graphical user interface, application

Description automatically generated

1. Display details of the drivers with top 3 pitstops without using rownum.

select \*

from drivers\_db d

inner join (

select pit\_stops\_db.\*, rank() over(order by PIT\_STOPS\_DURATION) as "RANK"

from pit\_stops\_db

)b on d.driver\_id=b.driver\_id

where RANK<=3;

Table

Description automatically generated

**Group Members:**

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