

# Milestone - 2

## Formula 1 – Standings Database



Source: <https://unsplash.com/photos/grayscale-photo-of-renault-racing-car-TsQfovTCM8E>

## Group 8

Sampreet Klair (sklair2), Dhruv Kakadiya (dhkakadiya), Prince Prince (pprince5), Siya Khanna (skhanna49)

## Introduction Summary

The purpose of this function is to reduce the difficulties that Formula 1 fans encounter in gathering and organising data and facts on the grand prix. The solution is to build a centralized and a reliable database application that integrates multiple Formula 1 statistics. Team standings, driver standings, race results, favorites, profile management, and a "Driver of the Day" feature that determines and announces the most favored driver based on user votes are the primary requirements for this database. By offering a user-friendly platform with extensive data on team performance, trends, and standings, as well as making sure the database is flexible enough to accommodate future data additions, the aim is to improve the whole experience for Formula 1 fans.

## Data Dictionary

Table: Teams

Column	Data Type	Size, Precision	PK/FK	Required	Range	Sample Data
TeamID	NUMERIC	2	PK	Y	1-99	2
TeamName	VARCHAR2	50		Y		RedBull Racing
TeamPrincipalName	VARCHAR2	50				Christian Horner
EngineSupplier	VARCHAR2	50				Mercedes Powertrain

Table: Circuits

Column	Data Type	Size, Precision	PK/FK	Required	Range	Sample Data
CircuitID	NUMERIC	2	PK	Y	1-99	3
CircuitName	VARCHAR2	100		Y		Circuit Gilles-Villeneuve, Montreal
Country	VARCHAR2	50		Y		Canada

Table: Races

Column	Data Type	Size, Precision	PK/FK	Required	Range	Sample Data
RaceID	NUMERIC	2	PK	Y	1-99	2
RaceName	VARCHAR2	100		Y		Canadian GP
CircuitID	NUMERIC	2	FK	Y	1-99	14
RaceDate	DATE					18-06-2023

Table: Drivers

Column	Data Type	Size, Precision	PK/FK	Required	Range	Sample Data
DriverID	NUMERIC	3	PK	Y	1-999	44
FirstName	VARCHAR2	50		Y		Lewis
LastName	VARCHAR2	50		Y		Hamilton
TeamID	NUMERIC	2	FK	Y	1-99	3
Nationality	VARCHAR2	50		Y		United Kingdom
DateOfBirth	DATE					07-01-1985

Table: Result

Column	Data Type	Size, Precision	PK/FK	Required	Range	Sample Data
RESULTID	NUMERIC	2	PK	Y	1-99	14
RACEID	NUMERIC	2	FK	Y	1-99	14
DRIVERID	NUMERIC	3	FK	Y	1-999	44
DRIVERPOSITION	NUMERIC	2			1-99	3
POINTS	NUMERIC	2			1-99	8

Table: DriverOfTheDay

Column	Data Type	Size, Precision	PK/FK	Required	Range	Sample Data
RACEID	NUMERIC	2	PK, FK	Y	1-99	14
DRIVERID	NUMERIC	3	PK, FK	Y	1-999	44

Table: FastestLap

Column	Data Type	Size, Precision	PK/FK	Required	Range	Sample Data
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LAPTIME	TIMESTAN P	3		Y		1.44.031
RACEID	NUMERIC	2	PK, FK	Y		14
DRIVERID	NUMERIC	3	PK, FK	Y	1-999	44

Table: DNF

Column	Data Type	Size, Precision	PK/FK	Required	Range	Sample Data
RACEID	NUMERIC	2	PK, FK	Y	1-99	14
DRIVERID	NUMERIC	3	PK, FK	Y	1-999	44
REASON	VARCHAR2	255				Collision with Barrier

Table: Qualifying

Column	Data Type	Size, Precision	PK/FK	Required	Range	Sample Data
QUALIFYINGID	NUMERIC	2	PK	Y	1-99	14
QUALIFYINGPOSITIO N	NUMERIC	2		Y	1-99	3
LAPTIME	TIMESTAMP	3				1.44.031
RACEID	NUMERIC	2	FK	Y	1-99	14
DRIVERID	NUMERIC	3	FK	Y	1-999	44

## Business Requirements

Tables		Relations
From	To	
DNF	Drivers	<b>M:1</b>
Drivers	DNF	<b>1:M</b>
DNF	Races	<b>M:1</b>
Races	DNF	<b>1:M</b>
FastestLap	Races	<b>M:1</b>
Races	FastestLap	<b>1:M</b>
FastestLap	Drivers	<b>M:1</b>
Drivers	FastestLap	<b>1:M</b>
Circuits	Races	<b>1:M</b>
Races	Circuits	<b>M:1</b>
Races	DriversOfTheDay	<b>1:M</b>
DriversOfTheDay	Races	<b>M:1</b>
Races	Results	<b>1:M</b>
Results	Races	<b>M:1</b>
Races	Qualifying	<b>1:M</b>
Races	Races	<b>M:1</b>
Drivers	Results	<b>1:M</b>
Results	Drivers	<b>M:1</b>
DriversOfTheDay	Drivers	<b>M:1</b>
Drivers	DriversOfTheDay	<b>1:M</b>
Qualifying	Drivers	<b>M:1</b>

Drivers	Qualifying	<b>1:M</b>
Drivers	Teams	<b>M:1</b>
Teams	Drivers	<b>1:M</b>

# Entity Relationship Diagram (ERD)

