Team (entity)

Attributes: engine, tech_chief, chassis, championship_count, team_points, team_chief, wins, team_name, base, Year, ranking, team_ID

Seasons (entity)

Attributes: Number of Races, Year_of_competition

Team Standing (entity)

Attributes: Team_Standing_ID

Performance (relationship)

compete (relationship)

Endorses (relationship)

Represents (relationship)

Sponsor (entity)

Attributes: Company_Name, Sponsor_Website, Sponsor_ID

Drivers (entity)

Attributes: first_Name, Driver_Num, last_Name, DOB, Racing_Country, highest_grid, podiums, championships, season_Points, highest_Finish, birth_Country

Rank (relationship)

Driver Standing (entity)

Attributes: Driver_Standing_ID, Year, place, total_points

Races (relationship)

Courses (entity)

Attributes: record_lap, no_of_laps, Length, Location

Outcome (relationship)

Race_Results (entity)

Attributes: finishing_place, points_awarded, Fastest Lap, Laps, Event_Date

Relational Schema:

    Seasons(<u>year_of_comp</u>, num_of_races)

    Compete(<u>year_of_comp, team_ID</u>)

    Team(<u>team_ID</u>, team_Name, team_chief, tech_chief, engine, championship_count, chassis, team_points, wins, base)

    endorses(<u>team_name, sponsor_ID</u>)

    sponsor(<u>sponsor_ID</u>, sponsor_website, company_name)

    teamStandings(<u>team_standing_ID</u>, year, ranking, *team_ID*)

    Driver(<u>driver_Num</u>, first_name, last_name, dob, racing_country, highest_grid, podiums, championships, season_points, highest_finish, birth_country, *team_ID*)

    driverStandings(<u>driver_standing_ID</u>, year, place, total_points, *driver_Num*)

    courses(<u>Location,</u> length, num_of_laps, record_lap)

    raceResults(<u>event_date,</u> fastest_lap, laps, points_awarded, finishing_place, *location*)

Business Rules:
1. A team can participate in multiple seasons, but each season can only have one instance of that team
2. All teams must participate in a season, while multiple teams enter in a single season and a single team can enter multiple seasons.
3. Each team must have a unique name and drivers
4. A course can host multiple race_results, but each race_results must take place at one course
5. The length, fastest_lap, and laps for Course must be positive numbers.
6. The position of a race_result must be a positive integer less than or equal to the number of drivers in the race.
7. The fastest_lap and laps for race_Results and must be a positive number.
8. Each team can have multiple sponsors and each sponsor can sponsor multiple teams.
9. Each sponsor must have a unique sponsor_ID and company name.
10. A driver can participate in multiple seasons and multiple teams but each team can have only one instance for each driver per season
11. Each driver must have a unique driver number and must represent a team
12. Each team must have a teamStanding every season and a team can have multiple teamStandings over a season.
13. Each driver must have driverStanding every season and a driver can have multiple driverStandings over a season.

Attribute (Bold= entity)	Description
Seasons	
Year_of_comp	The numeric representation of the year that the season took place during. (1950 - 2022)
Num_of_races	An integer of the number of races that occurred during the season. (7-22)
Team	
team_ID	Surrogate primary key for teams. (1-50)
team_Name	Name of the team.
team_chief	Name of the team chief.
tech_Chief	Name of the tech chief.
engine	Type of engine that the team races with.
championship_count	Number of championships that the team has ever won. (0-20)
chassis	The type of chassis that the team uses.
team_points	The total points from both drivers for a team that they have earned in a year. (0-1000)
wins	Number of wins that a team has between their two drivers in a given year. (1-300)
base	What country the team is based out of.
Team_Standings	
team_Standing_ID	Surrogate Primary key for team standing
year	The year that the season team standings took place (1950-2022)
ranking	Rank the team got during that year
Sponsor	
sponsor_ID	Surrogate primary key for the sponsors
sponsor_website	The website for the respective sponsors.
company_name	The name of the company.

Drivers	
driver_num	The number representing a driver (1-99)
last_name	Last Name of the driver
first_name	First Name of the driver
dob	Date of Birth of the driver
racing_country	Country the driver is racing out of
highest_grid	Highest Grid position received (1-50)
podiums	Number of podium finishes received
championships	Number of championships won
season_points	Number of points earned during season
highest_finish	Highest position ever finished
birth_Country	Country the driver was born in
Driver_standings	
driver_standing_ID	Surrogate primary key for the driver standings.
year	The year that the standings are taking place in. (1950-2022)
place	The place that the driver got in the given year. (1-50)
total_points	The number of points that the driver has in the given year. (0-5000)
courses	
location	The geographical place where the stadium is built.
length	The total number of miles long that the race is. (100-300)
num_of_laps	The number of laps that are in the race. (160-500)
record_lap	The number of seconds for the fastest lap on the course.(90-120)
Race_Results	
event_date	The date that the race occurred on. (1/1/1950 - 12/31/2022)
laps	The number of laps that are in the race. (160-200)

fastest_lap	Fastest lap recorded during the race (90-120 seconds)
points_awarded	Number of points the earned during the race (1-50)
finishing_place	The position the driver finished in. (1-50)