

## Milestone 4

University of British Columbia, Vancouver  
Department of Computer Science  
CPSC 304 Project - The Formula for Success  
Milestone #: 4  
Date: December 1, 2023  
Group Number: 51

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By typing our names and student numbers in the above table, we certify that the work in the attached assignment was performed solely by those whose names and student IDs are included above. (In the case of Project Milestone 0, the main purpose of this page is for you to let us know your email address, and then let us assign you to a TA for your project supervisor.)

In addition, we indicate that we are fully aware of the rules and consequences of plagiarism, as set forth by the Department of Computer Science and the University of British Columbia

### Description of Project:

Our final application is in the domain of sports data management that focuses on Formula One (F1), a form of international motorsport. The application is able to store statistics and results for fans to reference and explore. Our webapp shows the parts of the database that model important components of the F1 system including Drivers, Constructors (i.e. “teams”), Circuits, Races, Standings and additional ones to accurately represent the intricacies of F1’s structure. In addition, the application also shows relationships such as which races drivers compete in, the results of those races, the overall performance of a team in a given season, and many more. Our project focuses on these core components of F1 as the database is intended to support fan engagement and activities, such as F1 betting and fantasy leagues.

### Description of Project Schema:

Nothing was changed from the initial schema that we submitted post normalization in milestone 2 and what we ended up implementing in our final application.

### Schema and its Data:

1. Sponsor(companyName, industry)

	COMPANYNAME	INDUSTRY
1	Oracle	Tech
2	Zoom	Tech
3	Tommy Hilfiger	Apparel
4	Monster Energy	Beverage
5	Ray-Ban	Apparel
6	Shell	Oil and Gas
7	Chrome	Tech
8	Michelo Ultra	Beverage
9	Tik Tok	Tech

2. Constructor(constructorName, nationality, numberOfWins)

	CONSTRUCTORNAME	NATIONALITY	NUMBEROFWINS
1	Red Bull Racing	Austria	6
2	Mercedes	Germany	8
3	Ferrari	Italy	15
4	Aston Martin	England	34
5	McLaren	England	45
6	Alpine	France	0
7	Williams	England	9
8	Alfa Romeo	Italy	5
9	Haas	United States	10
10	AlphaTauri	Italy	0

3. TeamMember(employeeId, firstName, lastName, nationality,, dateOfBirth, salary, job)

	EMPLOYEEID	FIRSTNAME	LASTNAME	NATIONALITY	DATEOFBIRTH	SALARY	JOB
1	1	Toto	Wolff	Austria	1972-01-12	26000000	Team Principal
2	2	Christian	Horner	England	1973-11-16	10000000	Team Principal
3	3	Zak	Brown	United States	1971-11-07	5000000	CEO
4	4	Hannah	Schmitz	England	1985-05-01	154000	Principal Strategy Engineer
5	5	Peter	Bonnington	England	1975-02-12	450000	Senior Race Engineer
6	6	Oscar	Piastri	Australia	2001-04-06	2000000	Driver
7	7	Logan	Sargeant	United States of America	2000-12-31	1000000	Driver
8	8	Yuki	Tsunoda	Japan	2000-05-11	1000000	Driver
9	9	Lando	Norris	England	1999-11-13	20000000	Driver
10	10	Zhou	Guanyu	China	1999-05-30	2000000	Driver
11	11	Lance	Stroll	Canada	1998-10-29	2800000	Driver
12	12	George	Russell	England	1998-02-15	8000000	Driver
13	13	Charles	Leclerc	Monaco	1997-10-16	24000000	Driver
14	14	Esteban	Ocon	France	1996-09-17	6000000	Driver
15	15	Alex	Albon	Thailand	1996-03-23	3000000	Driver
16	16	Pierre	Gasly	France	1996-02-07	5000000	Driver
17	17	Carlos	Sainz	Spain	1994-09-01	12000000	Driver
18	18	Kevin	Magnussen	Denmark	1992-10-05	5000000	Driver
19	19	Sergio	Perez	Mexico	1990-01-26	10000000	Driver
20	20	Valtteri	Bottas	Finland	1989-08-28	10000000	Driver
21	21	Nico	Hulkenberg	Germany	1987-08-19	2000000	Driver
22	22	Lewis	Hamilton	England	1985-01-07	37000000	Driver
23	23	Max	Verstappen	Netherlands	1997-09-30	50000000	Driver
24	24	Fernando	Alonso	Spain	1981-07-29	20000000	Driver

#### 4. Car(model, engine, constructorName)

	MODEL	ENGINE	CONSTRUCTORNAME
1	RB19	Red Bull Powertrains - Honda	Red Bull Racing
2	SF-23	Ferrari	Ferrari
3	W14	Mercedes	Mercedes
4	A523	Renault	Alpine
5	MCL60	Mercedes	McLaren
6	C43	Ferrari	Alfa Romeo
7	AMR23	Mercedes	Aston Martin
8	VF-23	Ferrari	Haas
9	AT04	Red Bull Powertrains - Honda	AlphaTauri
10	FW45	Mercedes	Williams

#### 5. Partner\_Ref(partnerId, partnerName, instagramHandle).

	PARTNERID	PARTNERNAME	INSTAGRAMHANDLE
1	1	Kelly Piquet	kellypiquet
2	2	Kika Gomes	francisca.cgomes
3	3	Carmen Montero Mundt	carmenmmundt
4	4	Lily Zneimer	lilyzneimer
5	5	Tiffany Cromwell	tiffanycromwell
6	6	Lily Muni He	lilymhe

#### 6. Partner\_2(instagramHandle, instagramFollowers)

	🔍 INSTAGRAMHANDLE ↕	📄 INSTAGRAMFOLLOWERS ↕
1	kellypiquet	1300000
2	francisca.cgomes	537000
3	carmenmmundt	309000
4	lilyzneimer	800
5	tiffanycromwell	195000
6	lilymhe	688000

7. GrandPrix\_2(year, **circuitName**, viewership)

	🔍 YEAR ↕	🔍 CIRCUITNAME ↕	📄 VIEWERSHIP ↕
1	2023	Bahrain International Circuit	1300000
2	2023	Albert Park Circuit	2950000
3	2023	Monaco	1790000
4	2023	Silverstone Circuit	2350000
5	2023	Marina Bay Street Circuit	1300000

8. GrandPrix\_Ref(**circuitName**, city)

	🔍 CIRCUITNAME ↕	📄 CITY ↕
1	Bahrain International Circuit	Sakhir
2	Albert Park Circuit	Melbourne
3	Monaco	Monte Carlo
4	Silverstone Circuit	Towcester
5	Marina Bay Street Circuit	Marina Bay

9. GrandPrix\_3(**circuitName**, country)

	🔍 CIRCUITNAME ↕	📄 COUNTRY ↕
1	Bahrain International Circuit	Bahrain
2	Albert Park Circuit	Australia
3	Monaco	Monaco
4	Silverstone Circuit	England
5	Marina Bay Street Circuit	Singapore

10. GrandPrix\_4(year, **circuitName**, attendance)

	🔍 YEAR ↕	🔍 CIRCUITNAME ↕	📄 ATTENDANCE ↕
1	2023	Bahrain International Circuit	36000
2	2023	Albert Park Circuit	444600
3	2023	Monaco	200000
4	2023	Silverstone Circuit	480000
5	2023	Marina Bay Street Circuit	264000

11. GrandPrix\_5(year, gpName, **circuitName**)

	🏁 YEAR ↕	🏁 GPNAME ↕	🏁 CIRCUITNAME ↕
1	2023	Bahrain Grand Prix	Bahrain International Circuit
2	2023	Australian Grand Prix	Albert Park Circuit
3	2023	Monaco Grand Prix	Monaco
4	2023	British Grand Prix	Silverstone Circuit
5	2023	Singapore Grand Prix	Marina Bay Street Circuit

12. Circuit\_Ref(numberOfLaps, length)

	🏁 NUMEROFLAPS ↕	📏 LENGTH ↕
1	57	308
2	58	307
3	78	260
4	52	306
5	61	308

13. Circuit\_2(circuitName, numberOfLaps, type)

	🏁 CIRCUITNAME ↕	🏁 NUMEROFLAPS ↕	📏 TYPE ↕
1	Bahrain International Circuit	57	race
2	Albert Park Circuit	58	street
3	Monaco	78	street
4	Silverstone Circuit	52	race
5	Marina Bay Street Circuit	61	street

14. GrandPrix\_ConstructorStanding\_Ref(position, points)

	🏁 POSITION ↕	📏 POINTS ↕
1	1	37
2	2	30
3	3	25

15. GrandPrix\_ConstructorStanding\_2(position, gpName, year)

	🏁 POSITION ↕	🏁 GPNAME ↕	🏁 YEAR ↕
1	1	Singapore Grand Prix	2023
2	2	British Grand Prix	2023
3	3	British Grand Prix	2023

16. GrandPrix\_DriverStanding\_Ref(racePosition, points)

	RACEPOSITION ↕	POINTS ↕
1	1	25
2	4	12
3	2	18
4	3	15
5	16	0

17. GrandPrix\_DriverStanding\_2(**racePosition**, **gpName**, **year**, qualifyingPosition)

	RACEPOSITION ↕	GPNAME ↕	YEAR ↕	QUALIFYINGPOSITION ↕
1	1	Singapore Grand Prix	2023	1
2	4	Singapore Grand Prix	2023	3
3	2	British Grand Prix	2023	2
4	4	British Grand Prix	2023	3
5	3	British Grand Prix	2023	6
6	1	Monaco Grand Prix	2023	1
7	16	Monaco Grand Prix	2023	20
8	3	Australian Grand Prix	2023	4
9	4	Australian Grand Prix	2023	6

18. Driver(**employeeId**, numberOfPodiums, numberOfWins, driverNumber, numberOfPolePositions)

	EMPLOYEEID ↕	NUMBEROFPODIUMS ↕	NUMBEROFWINS ↕	DRIVERNUMBER ↕	NUMBEROFPOLEPOSITIONS ↕
1	6	2	0	81	1
2	7	0	0	2	0
3	8	0	0	22	0
4	10	0	0	24	0
5	11	3	0	18	1
6	12	10	1	63	1
7	14	3	1	31	0
8	15	2	0	23	0
9	16	4	1	10	0
10	19	34	6	11	3
11	20	67	10	77	20
12	21	0	0	27	1
13	22	196	103	44	104
14	24	105	32	14	22

19. Sponsors(**companyName**, **constructorName**, sponsorshipAmount)

	COMPANYNAME	CONSTRUCTORNAME	SPONSORSHIPAMOUNT
1	Oracle	Red Bull Racing	500000000
2	Zoom	Red Bull Racing	150000000
3	Tommy Hilfiger	Mercedes	50000000
4	Monster Energy	Mercedes	85000000
5	Ray-Ban	Ferrari	290000000
6	Shell	Ferrari	350000000
7	Chrome	McLaren	420000000
8	Michelob Ultra	Williams	41000000
9	Tik Tok	Aston Martin	<null>

20. WorksWith(**constructorName**, **employeeId**, since)

	CONSTRUCTORNAME	EMPLOYEEID	SINCE
1	Red Bull Racing	2	2005-01-01
2	Mercedes	1	2013-01-01
3	McLaren	3	2016-11-01
4	Red Bull Racing	4	2009-11-01
5	Mercedes	5	2011-09-01
6	McLaren	6	2023-03-05
7	Williams	7	2023-03-05
8	AlphaTauri	8	2021-03-28
9	McLaren	9	2019-03-17
10	Alfa Romeo	10	2022-03-20
11	Aston Martin	11	2017-03-26
12	Mercedes	12	2019-03-17
13	Ferrari	13	2018-03-25
14	Alpine	14	2016-08-28
15	Williams	15	2019-03-17
16	Alpine	16	2017-10-01
17	Ferrari	17	2015-03-15
18	Haas	18	2014-03-16
19	Red Bull Racing	19	2011-03-27
20	Alfa Romeo	20	2013-03-17
21	Haas	21	2010-03-14
22	Mercedes	22	2007-03-28
23	Red Bull Racing	23	2015-03-15
24	Aston Martin	24	2001-03-04

21. Drives(**model**, **employeeId**)

	MODEL	EMPLOYEEID
1	A523	14
2	A523	16
3	AMR23	11
4	AMR23	24
5	AT04	8
6	C43	10
7	C43	20
8	FW45	7
9	FW45	15
10	MCL60	6
11	RB19	19
12	VF-23	21
13	W14	12
14	W14	22

22. InRelationshipWith(partnerId, employeeId, since)

	PARTNERID	EMPLOYEEID	SINCE
1	2	16	2022-09-13
2	3	12	2020-06-20
3	4	6	2019-01-16
4	5	20	2020-03-29
5	6	15	2019-04-12

23. ConstructorHolds(position, gpName, year, constructorName)

	POSITION	GPNAME	YEAR	CONSTRUCTORNAME
1	1	Singapore Grand Prix	2023	Ferrari
2	2	British Grand Prix	2023	McLaren
3	3	British Grand Prix	2023	Mercedes

24. DriverHolds(racePosition, gpName, year, employeeId)

	RACEPOSITION	GPNAME	YEAR	EMPLOYEEID
1	3	Australian Grand Prix	2023	24
2	3	British Grand Prix	2023	22
3	4	Australian Grand Prix	2023	11
4	4	British Grand Prix	2023	6
5	16	Monaco Grand Prix	2023	19

## SQL Queries:

Insert:

driver.php, lines 78-82

Delete:



driver.php, line 144

Update:

constructor.php, line 46

Selection:

grandprix.php, lines 49-88

Projection:

home.php, lines 46-91

Join:

driver.php, lines 112-128

Aggregation with Group By:

constructor.php, lines 58-61

Aggregation with Having:

constructor.php, lines 70-80

Nested Aggregation with Group By:

grandprix.php, lines 105-113

Division:

constructor.php, lines 91-106

## Query Functionalities:

### Insert:

Before:

#### Drivers

Insert a Driver

First Name

Last Name

Date Of Birth (YYYY-MM-DD)

Nationality

Salary

Driver Number

Employee ID

Number of Wins

Number of Podiums

Number of Pole Positions

Insert

Table: Driver

EMPLOYEEID	FIRSTNAME	LASTNAME	NATIONALITY	DATEOFBIRTH	SALARY	JOB	DRIVERNUMBER	NUMBEROFWINS	NUMBEROFPODIUMS	NUMBEROFPOLEPOSITIONS
9	Lando	Norris	England	13-NOV-99	20000000	Driver	4	0	11	1
17	Carlos	Sainz	Spain	01-SEP-94	12000000	Driver	55	2	17	5
19	Sergio	Perez	Mexico	26-JAN-90	10000000	Driver	11	6	34	3
22	Lewis	Hamilton	England	07-JAN-85	37000000	Driver	44	103	196	104
24	Fernando	Alonso	Spain	29-JUL-81	20000000	Driver	14	32	105	22
11	Lance	Stroll	Canada	29-OCT-98	28000000	Driver	18	0	3	1
12	George	Russell	England	15-FEB-98	8000000	Driver	63	1	10	1
16	Pierre	Gasly	France	07-FEB-96	5000000	Driver	10	1	4	0
6	Oscar	Piastri	Australia	06-APR-01	2000000	Driver	81	0	2	1
7	Logan	Sargeant	United States of America	31-DEC-00	1000000	Driver	2	0	0	0
13	Charles	Leclerc	Monaco	16-OCT-97	24000000	Driver	16	5	27	19
20	Valtteri	Bottas	Finland	28-AUG-89	10000000	Driver	77	10	67	20
15	Alex	Albon	Thailand	23-MAR-96	3000000	Driver	23	0	2	0
27	Sebastian	Vettel	Germany	03-JUL-87	2000000	Driver	6	50	100	30
18	Kevin	Magnussen	Denmark	05-OCT-92	5000000	Driver	20	0	1	1
8	Yuki	Tsunoda	Japan	11-MAY-00	1000000	Driver	22	0	0	0
14	Esteban	Ocon	France	17-SEP-96	6000000	Driver	31	1	3	0
10	Zhou	Guanyu	China	30-MAY-99	2000000	Driver	24	0	0	0
21	Nico	Hulkenberg	Germany	19-AUG-87	2000000	Driver	27	0	0	1
23	Max	Verstappen	Netherlands	30-SEP-97	50000000	Driver	1	49	93	30

During:

Drivers

Insert a Driver

Kira

1995-09-12

5000000

30

8

Swinth

Germany

82

2

20

Insert

After:

Table: Driver

EMPLOYEEID	FIRSTNAME	LASTNAME	NATIONALITY	DATEOFBIRTH	SALARY	JOB	DRIVERNUMBER	NUMBEROFWINS	NUMBEROFPODIUMS	NUMBEROFPOLEPOSITIONS
9	Lando	Norris	England	13-NOV-99	20000000	Driver	4	0	11	1
17	Carlos	Sainz	Spain	01-SEP-94	12000000	Driver	55	2	17	5
19	Sergio	Perez	Mexico	26-JAN-90	10000000	Driver	11	6	34	3
22	Lewis	Hamilton	England	07-JAN-85	37000000	Driver	44	103	196	104
24	Fernando	Alonso	Spain	29-JUL-81	20000000	Driver	14	32	105	22
11	Lance	Stroll	Canada	29-OCT-98	2800000	Driver	18	0	3	1
12	George	Russell	England	15-FEB-98	8000000	Driver	63	1	10	1
16	Pierre	Gasly	France	07-FEB-96	5000000	Driver	10	1	4	0
6	Oscar	Piastri	Australia	06-APR-01	2000000	Driver	81	0	2	1
7	Logan	Sargeant	United States of America	31-DEC-00	1000000	Driver	2	0	0	0
13	Charles	Leclerc	Monaco	16-OCT-97	24000000	Driver	16	5	27	19
20	Valtteri	Bottas	Finland	28-AUG-89	10000000	Driver	77	10	67	20
15	Alex	Albon	Thailand	23-MAR-96	3000000	Driver	23	0	2	0
18	Kevin	Magnussen	Denmark	05-OCT-92	5000000	Driver	20	0	1	1
8	Yuki	Tsunoda	Japan	11-MAY-00	1000000	Driver	22	0	0	0
14	Esteban	Ocon	France	17-SEP-96	6000000	Driver	31	1	3	0
30	Kira	Swinth	Germany	12-SEP-95	5000000	Driver	82	2	8	20
10	Zhou	Guanyu	China	30-MAY-99	2000000	Driver	24	0	0	0
21	Nico	Hulkenberg	Germany	19-AUG-87	2000000	Driver	27	0	0	1
23	Max	Verstappen	Netherlands	30-SEP-97	50000000	Driver	1	49	93	30

Delete:

Before:

Delete a Driver

Choose the Employee ID

Employee ID...

▼

Delete

Table: Driver

EMPLOYEEID	FIRSTNAME	LASTNAME	NATIONALITY	DATEOFBIRTH	SALARY	JOB	DRIVERNUMBER	NUMBEROFWINS	NUMBEROFPODIUMS	NUMBEROFPOLEPOSITIONS
9	Lando	Norris	England	13-NOV-99	20000000	Driver	4	0	11	1
17	Carlos	Sainz	Spain	01-SEP-94	12000000	Driver	55	2	17	5
19	Sergio	Perez	Mexico	26-JAN-90	10000000	Driver	11	6	34	3
22	Lewis	Hamilton	England	07-JAN-85	37000000	Driver	44	103	196	104
24	Fernando	Alonso	Spain	29-JUL-81	20000000	Driver	14	32	105	22
11	Lance	Stroll	Canada	29-OCT-98	2800000	Driver	18	0	3	1
12	George	Russell	England	15-FEB-98	8000000	Driver	63	1	10	1
16	Pierre	Gasly	France	07-FEB-96	5000000	Driver	10	1	4	0
6	Oscar	Piastri	Australia	06-APR-01	2000000	Driver	81	0	2	1
7	Logan	Sargeant	United States of America	31-DEC-00	1000000	Driver	2	0	0	0
13	Charles	Leclerc	Monaco	16-OCT-97	24000000	Driver	16	5	27	19
20	Valtteri	Bottas	Finland	28-AUG-89	10000000	Driver	77	10	67	20
15	Alex	Albon	Thailand	23-MAR-96	3000000	Driver	23	0	2	0
18	Kevin	Magnussen	Denmark	05-OCT-92	5000000	Driver	20	0	1	1
8	Yuki	Tsunoda	Japan	11-MAY-00	1000000	Driver	22	0	0	0
14	Esteban	Ocon	France	17-SEP-96	6000000	Driver	31	1	3	0
30	Kira	Swinth	Germany	12-SEP-95	5000000	Driver	82	2	8	20
10	Zhou	Guanyu	China	30-MAY-99	2000000	Driver	24	0	0	0
21	Nico	Hulkenberg	Germany	19-AUG-87	2000000	Driver	27	0	0	1
23	Max	Verstappen	Netherlands	30-SEP-97	50000000	Driver	1	49	93	30

During: Delete EmployeeID = 6

## Delete a Driver

Choose the Employee ID

☒ Employee ID...

6  
 7  
 8  
 9  
 10  
 11  
 12  
 13  
 14  
 15  
 16  
 17

After:

Table: Driver

EMPLOYEEID	FIRSTNAME	LASTNAME	NATIONALITY	DATEOFBIRTH	SALARY	JOB	DRIVERNUMBER	NUMBEROFWINS	NUMBEROFPODIUMS	NUMBEROFPOLEPOSITIONS
9	Lando	Norris	England	13-NOV-99	20000000	Driver	4	0	11	1
17	Carlos	Sainz	Spain	01-SEP-94	12000000	Driver	55	2	17	5
19	Sergio	Perez	Mexico	26-JAN-90	10000000	Driver	11	6	34	3
22	Lewis	Hamilton	England	07-JAN-85	37000000	Driver	44	103	196	104
24	Fernando	Alonso	Spain	29-JUL-81	20000000	Driver	14	32	105	22
11	Lance	Stroll	Canada	29-OCT-98	2800000	Driver	18	0	3	1
12	George	Russell	England	15-FEB-98	8000000	Driver	63	1	10	1
16	Pierre	Gasly	France	07-FEB-96	5000000	Driver	10	1	4	0
7	Logan	Sargeant	United States of America	31-DEC-00	1000000	Driver	2	0	0	0
13	Charles	Leclerc	Monaco	16-OCT-97	24000000	Driver	16	5	27	19
20	Valtteri	Bottas	Finland	28-AUG-89	10000000	Driver	77	10	67	20
15	Alex	Albon	Thailand	23-MAR-96	3000000	Driver	23	0	2	0
18	Kevin	Magnussen	Denmark	05-OCT-92	5000000	Driver	20	0	1	1
8	Yuki	Tsunoda	Japan	11-MAY-00	1000000	Driver	22	0	0	0
14	Esteban	Ocon	France	17-SEP-96	6000000	Driver	31	1	3	0
10	Zhou	Guanyu	China	30-MAY-99	2000000	Driver	24	0	0	0
21	Nico	Hulkenberg	Germany	19-AUG-87	2000000	Driver	27	0	0	1
23	Max	Verstappen	Netherlands	30-SEP-97	50000000	Driver	1	49	93	30

Update:

Before:

## Update Constructor Wins

Choose the Constructor

Constructor name...

Updated number of wins

Wins

Update

Table: Constructor

CONSTRUCTORNAME	NATIONALITY	NUMBEROFWINS
Red Bull Racing	Austria	6
Mercedes	Germany	8
Ferrari	Italy	15
Aston Martin	England	0
McLaren	England	20
Alpine	France	0
Williams	England	9
Alfa Romeo	Italy	5
Haas	United States	0
AlphaTauri	Italy	0

During:

Update Constructor Wins

Choose the Constructor

Aston Martin

Updated number of wins

239

Update

After:

Table: Constructor

CONSTRUCTORNAME	NATIONALITY	NUMBEROFWINS
Red Bull Racing	Austria	6
Mercedes	Germany	8
Ferrari	Italy	15
Aston Martin	England	239
McLaren	England	20
Alpine	France	0
Williams	England	9
Alfa Romeo	Italy	5
Haas	United States	0
AlphaTauri	Italy	0

Selection:

Before:

Filter Grand Prix

Select what combination of Grand Prix attributes to filter on:

Filter Combinations

Filter on...

Filter 1: Year AND Filter 2: Grand Prix Name

Filter 1: Year AND Filter 2: Country

Filter 1: Year AND Filter 2: Circuit Name

Filter 1: Year OR Filter 2: City

Filter

During:

Filter Grand Prix (Selection) ^

Select what combination of Grand Prix attributes to filter on:

Filter Combinations

Filter 1: Year AND Filter 2: Grand Prix Name v

Filter 1

Filter 2

2023

British Grand Prix

Filter

After:

Table: Grand Prix

CIRCUITNAME	CITY	YEAR	VIEWERSHIP	COUNTRY	ATTENDANCE
Silverstone Circuit	Towcester	2023	2350000	England	480000

Projection:

Before:

Explore the Database

Select a table to view:

Table name... v

Entities:

Sponsors

Constructors

Team Members

Cars

Partners

Circuits

Grand Prix

Drivers

Relationships:

ConstructorStandings

DriverStandings

Sponsors

WorksWith

Drives

InRelationshipWith

ConstructorHolds

During:

Explore the Database

Select a table to view:

DriverStandings v

Choose attributes for selected table

Select which attributes to view:

☒ POINTS

☐ GPNAME

☒ YEAR

☒ QUALIFYINGPOSITION

☐ RACEPOSITION

View table

After:

Table: DRIVERSTANDING

POINTS	YEAR	QUALIFYINGPOSITION
25	2023	1
12	2023	3
18	2023	2
12	2023	3
15	2023	6
25	2023	1
0	2023	20
15	2023	4
12	2023	6

Join:

Before:

Drivers and their Partners ^

Find the drivers who are dating someone with more than \_\_\_\_ Instagram followers.

After:

With Follower Amount = 1000:

Table: Driver

INSTAGRAMFOLLOWERS	FIRSTNAME	LASTNAME	PARTNERNAME
309000	George	Russell	Carmen Montero Mundt
688000	Alex	Albon	Lily Muni He
537000	Pierre	Gasly	Kika Gomes
195000	Valtteri	Bottas	Tiffany Cromwell
1300000	Max	Verstappen	Kelly Piquet

Aggregation with Group By:

Before:

Constructors' Sponsors ^

Find the average sponsorship amount given to the constructor's country

After:

## Constructors' Sponsors

Find the average sponsorship amount given to the constructor's country

Search

*Table: Constructor*

COUNTRY	AVERAGEDOLLARAMOUNT
Austria	325000000
Italy	320000000
Germany	67500000
England	230500000

## Aggregation with Having:

Before:

### Engine Manufacturers

Find the engine manufacturers with more than 5 championship wins.

Search

After:

### Engine Manufacturers

Find the engine manufacturers with more than 5 championship wins.

Search

*Table: Constructor*

ENGINE	SUM(NUMBEROFWINS)
Mercedes	37
Ferrari	20
Renault	22
Red Bull Powertrains - Honda	6

## Nested Aggregation with Group By:

Before:

### Circuit Type Spectatorship

For each circuit type, find the average number of people in attendance at Grand Prix with that type of circuit, excluding circuits with the least amount of laps.

Search

After:



