Carreras de Formula 1

Soluciones a las consultas SQL:

1.
```sql
SELECT DISTINCT drivers.surname, drivers.forename
FROM drivers
        INNER JOIN results ON drivers.driverId = results.driverId
        INNER JOIN races ON results.raceId = races.raceId
WHERE year = 2016
```

2.
```sql
SELECT name
FROM constructors
WHERE constructorId IN (SELECT constructorId
                        FROM results
                        GROUP BY constructorId
                        HAVING COUNT(DISTINCT driverId) > 50)
```

3.
```sql
SELECT forename, surname
FROM drivers
WHERE driverId NOT IN (SELECT driverId
                FROM results
                WHERE positionOrder = 1)
```

4.
```sql
-- Solución con HAVING COUNT
SELECT drivers.surname, drivers.forename
FROM drivers
WHERE driverId IN (SELECT driverId
                   FROM results
                   WHERE raceId IN (SELECT raceId FROM races WHERE year=2017)
                   GROUP BY results.driverId
                   HAVING COUNT(distinct results.raceId) = (SELECT COUNT(*)
                                                            FROM races
                                                            WHERE year=2017))

-- Solución con NOT EXISTS
SELECT drivers.surname, drivers.forename
FROM drivers
WHERE NOT EXISTS (SELECT *
            FROM races
            WHERE year = 2017
              AND NOT EXISTS (SELECT *
                              FROM results
                              WHERE results.driverId = drivers.driverId
                                AND races.raceId = results.raceId))
```

5.
```sql
SELECT circuits.circuitId, circuits.name, circuits.location, circuits.country, year
FROM races
    INNER JOIN circuits ON races.circuitId = circuits.circuitId
WHERE year BETWEEN 2015 AND 2017
ORDER BY circuits.circuitId
```

6.
```sql
SELECT *
FROM constructors
WHERE constructors.constructorId NOT IN (SELECT qualifying.constructorId
                                         FROM qualifying)
```

7.
```sql
SELECT drivers.surname, drivers.forename , tabla1.Ganado
FROM (SELECT .driverId , COUNT(*) Ganado
FROM `results`
WHERE positionOrder = 1
GROUP BY driverId
HAVING COUNT(*) > 30 ) tabla1 JOIN drivers ON tabla1.driverId=drivers.driverId
```

8.
```sql
SELECT drivers.forename, drivers.surname, circuits.name, races.year, results.fastestLapSpeed
FROM drivers
    INNER JOIN results ON drivers.driverId = results.driverId
    INNER JOIN races ON races.raceId = results.raceId
    INNER JOIN circuits ON circuits.circuitId = races.circuitId
WHERE fastestLapSpeed >= ALL (SELECT fastestLapSpeed
                              FROM results)
```

9.
```sql
SELECT drivers.forename, drivers.surname, results.fastestLapSpeed
FROM drivers
        INNER JOIN results ON results.driverId = drivers.driverId
    INNER JOIN races ON races.raceId = results.raceId
WHERE races.year = 2009
  AND races.name = 'Japanese Grand Prix'
  AND results.fastestLapSpeed >= ALL (SELECT fastestLapSpeed
                                      FROM results
                                            INNER JOIN races ON
                                            ↪  races.raceId =
                                            ↪  results.raceId
                                      WHERE year = 2009
                                    AND name = 'Japanese Grand Prix')
```

10.
```sql
-- Solución con HAVING COUNT
SELECT drivers.forename, drivers.surname
FROM results
        INNER JOIN races ON races.raceId = results.raceId
    INNER JOIN drivers ON drivers.driverId = results.driverId
WHERE points > 0
  AND year = 2017
GROUP BY drivers.driverId, drivers.forename, drivers.surname
HAVING COUNT(*) = (SELECT COUNT(*)
                   FROM races
                   WHERE year = 2017)


-- Solución con NOT EXISTS
SELECT drivers.surname, drivers.forename
FROM drivers
WHERE NOT EXISTS ( SELECT *
           FROM races
           WHERE year = 2017 AND NOT EXISTS (SELECT *
                                             FROM results
                                             WHERE results.points > 0
                                               AND drivers.driverId = results.driverId
                                               AND results.raceId = races.raceId ))
```

11.
```sql
-- Solución con GROUP BY
SELECT drivers.forename, drivers.surname, circuits.name, races.year, COUNT(*)
FROM drivers
        INNER JOIN pitstops ON pitstops.driverId = drivers.driverId
    INNER JOIN races ON races.raceId = pitstops.raceId
    INNER JOIN circuits ON circuits.circuitId = races.circuitId
GROUP BY drivers.driverId, drivers.forename, drivers.surname, races.raceId, races.year,
↪  circuits.name
HAVING COUNT(*) >= ALL(SELECT COUNT(*)
                       FROM pitstops
                       GROUP BY driverId, raceId)

UNION

SELECT drivers.forename, drivers.surname, circuits.name, races.year, COUNT(*)
FROM drivers
        INNER JOIN pitstops ON pitstops.driverId = drivers.driverId
    INNER JOIN races ON races.raceId = pitstops.raceId
    INNER JOIN circuits ON circuits.circuitId = races.circuitId
GROUP BY drivers.driverId, drivers.forename, drivers.surname, races.raceId, races.year,
↪  circuits.name
HAVING COUNT(*) <= ALL(SELECT COUNT(*)
                       FROM pitstops
                       GROUP BY driverId, raceId)

-- Solución con el atributo stop
```

```sql
SELECT d.forename, d.surname, c.name, r.year, p.stop
FROM drivers d
        INNER JOIN pitstops p ON p.driverId = d.driverId
    INNER JOIN races r ON r.raceId = p.raceId
    INNER JOIN circuits c ON c.circuitId = r.circuitId
WHERE p.stop = (SELECT MAX(stop)
                               FROM pitstops)
   OR p.stop = (SELECT MIN(stop)
                               FROM pitstops)
```

12.
```sql
SELECT drivers.forename, drivers.surname, constructors.name
FROM drivers
        INNER JOIN qualifying ON qualifying.driverId = drivers.driverId
    INNER JOIN constructors ON qualifying.constructorId = constructors.constructorId
    INNER JOIN races ON races.raceId = qualifying.raceId
WHERE races.year = 2017
  AND races.name = 'Abu Dhabi Grand Prix'
  AND constructors.constructorId IN (SELECT qualifying.constructorId
                                                                FROM qualifying
                                                                         INNER JOIN races
                                                                         ↪  ON
                                                                         ↪  races.raceId =
                                                                         ↪  qualifying.raceId
                                                                WHERE races.year = 2017
                                                                  AND races.name = 'Abu
                                                                  ↪  Dhabi Grand Prix'
                                                                  AND qualifying.q1 <> ''
                                        AND qualifying.q2 <> ''
                                        AND qualifying.q3 <> ''
                                                                GROUP BY
                                                                ↪  qualifying.constructorId
                                                                HAVING COUNT(DISTINCT
                                                                ↪  qualifying.driverId) =
                                                                ↪  2)
ORDER BY constructors.name ASC
```

13.
```sql
SELECT drivers.forename, drivers.surname, races.name, races.year
FROM drivers
        INNER JOIN results ON results.driverId = drivers.driverId
    INNER JOIN races ON races.raceId = results.raceId
WHERE races.raceId IN (SELECT raceId
                                        FROM results
                                INNER JOIN drivers ON drivers.driverId = results.driverId
                                        WHERE drivers.nationality = "Russian")
  AND races.raceId IN (SELECT raceId
                                        FROM results
                                INNER JOIN drivers ON drivers.driverId = results.driverId
                                        WHERE drivers.nationality = "Polish")
```

14.
```sql
SELECT drivers.forename, drivers.surname, SUM(results.laps)
FROM drivers
        INNER JOIN results ON results.driverId = drivers.driverId
    INNER JOIN races ON races.raceId = results.raceId
WHERE races.year = 2011
GROUP BY drivers.driverId, drivers.forename, drivers.surname
HAVING SUM(results.laps) > (SELECT AVG(nLaps)
                                                        FROM (SELECT SUM(laps) AS nLaps
                                                                FROM results
                                                                        INNER JOIN races ON
                                                                        ↪  races.raceId =
                                                                        ↪  results.raceId
                                                                WHERE year = 2010
                                                                GROUP BY driverId) t)
```

15.
```sql
SELECT name, year
FROM races
WHERE raceId IN (SELECT raceId FROM qualifying)
  AND raceId NOT IN (SELECT raceId FROM pitstops)
```

16.
```sql
-- Solución con NOT EXITS
SELECT DISTINCT nationality
FROM drivers
WHERE NOT EXISTS (SELECT *
                  FROM races
                  WHERE name = "Australian Grand Prix"
                    AND NOT EXISTS (SELECT *
                                    FROM results
                                    WHERE results.driverId = drivers.driverId
                                      AND results.raceId = races.raceId))

-- Solución con COUNT
SELECT drivers.nationality
FROM drivers
        INNER JOIN results ON results.driverId = drivers.driverId
    INNER JOIN races ON races.raceId = results.raceId
WHERE races.name = "Australian Grand Prix"
GROUP BY drivers.driverId, drivers.nationality
HAVING COUNT(*) = (SELECT COUNT(*)
                   FROM races
                   WHERE name = "Australian Grand Prix")
```

17.
```sql
DELETE FROM qualifying
WHERE q1 = '' AND q2 = '' AND q3 = ''
```

18.
```sql
SELECT *
FROM constructors
WHERE constructorId IN (SELECT results.constructorId
                                                FROM results
                                                        INNER JOIN races ON races.raceId =
                                                        ↪  results.raceId
                                                WHERE races.year BETWEEN 2003 AND 2010
                                                  AND results.positionOrder = 1
                                                GROUP BY results.constructorId
                                                HAVING COUNT(*) > 5)
  AND constructorId NOT IN (SELECT results.constructorId
                                                        FROM results
                                                                INNER JOIN races ON races.raceId =
                                                                ↪  results.raceId
                                                        WHERE races.year > 2010)
```

19.
```sql
-- Solución con NOT EXISTS
SELECT name, year
FROM races
WHERE NOT EXISTS(SELECT *
                 FROM status
                 WHERE statusId BETWEEN 2 AND 7
                   AND NOT EXISTS(SELECT *
                                  FROM results
                                  WHERE results.raceId = races.raceId
                                    AND results.statusId = status.statusId))

-- Solución con COUNT
SELECT races.raceId, races.name, races.year, COUNT(DISTINCT results.statusId)
FROM races
        INNER JOIN results ON results.raceId = races.raceId
WHERE results.statusId BETWEEN 2 AND 7
GROUP BY races.raceId, races.name, races.year
HAVING COUNT(DISTINCT results.statusId) = (SELECT COUNT(*)
                                                                        FROM status
                                          WHERE statusId BETWEEN 2 AND 7)
```

20.
```sql
SELECT forename, surname, circuits.name, races.year, miliseconds
FROM drivers, pitstops, races, circuits
WHERE drivers.driverId=pitstops.driverId
  AND pitstops.raceId=races.raceId
  AND races.circuitId=circuits.circuitId
  AND drivers.nationality='Spanish'
  AND miliseconds = (SELECT MIN(miliseconds)
```

```
                    FROM pitstops JOIN drivers ON pitstops.driverId=drivers.driverId
                    WHERE drivers.nationality='Spanish');
```

21.
```
SELECT DISTINCT name
FROM constructors
    INNER JOIN results ON results.constructorId = constructors.constructorId
    INNER JOIN drivers ON drivers.driverId = results.resultId
WHERE constructors.nationality LIKE 'Italian'
  AND drivers.nationality LIKE 'Italian'
```

22.
```
SELECT drivers.forename, drivers.forename, COUNT(*)
FROM drivers
        INNER JOIN results ON results.driverId = drivers.driverId
    INNER JOIN status ON status.statusId = results.statusId
WHERE status.status LIKE 'Accident'
GROUP BY drivers.driverId, drivers.forename, drivers.surname
HAVING COUNT(*) >= ALL (SELECT COUNT(*)
                        FROM results
                                INNER JOIN status ON status.statusId = results.statusId
                        WHERE status.status LIKE 'Accident'
                        GROUP BY results.driverId)
```

23.
```
SELECT drivers.forename, drivers.surname
FROM drivers
WHERE NOT EXISTS (SELECT *
                  FROM races
                  WHERE year = 2015
                    AND NOT EXISTS (SELECT *
                                    FROM qualifying
                                    WHERE position <= 10
                                      AND qualifying.driverId = drivers.driverId
                                      AND qualifying.raceId = races.raceId))
```

24.
```
SELECT name
FROM constructors
WHERE constructorId NOT IN (SELECT constructorId
                            FROM results JOIN drivers ON results.driverId=drivers.driverId
                            WHERE nationality='Italian')
AND nationality='Italian';
```

25.
```
SELECT *
FROM constructors C
WHERE NOT EXISTS (SELECT *
                  FROM races R
                  WHERE year=2006
                  AND NOT EXISTS (SELECT *
                                  FROM qualifying
                                  WHERE qualifying.raceId=R.raceId
                                  AND qualifying.constructorId=C.constructorId
                                  AND position <= 10))
```

26.
```
SELECT forename, surname, suma
FROM(SELECT driverId, year, SUM(points) as suma
     FROM results JOIN races ON results.raceId=races.raceId
     WHERE year BETWEEN 1990 AND 2000
     GROUP BY driverId, year
     HAVING SUM(points)>0) AS puntuaciones
JOIN drivers ON puntuaciones.driverId=drivers.driverId
WHERE suma >= ALL (SELECT SUM(points)
                   FROM results JOIN races ON results.raceId=races.raceId
                   WHERE year BETWEEN 1990 AND 2000
                   GROUP BY driverId, year
                   HAVING SUM(points)>0)
```

27.
```sql
SELECT DISTINCT d.forename, d.surname, r.name, r.year
FROM drivers d
        INNER JOIN results ON results.driverId = d.driverId
    INNER JOIN races r ON r.raceId = results.raceId
WHERE results.positionOrder = 1
  AND EXISTS (SELECT *
              FROM qualifying
              WHERE qualifying.raceId = r.raceId
                AND qualifying.driverId = d.driverId
                AND position > 10)
```

28.
```sql
SELECT drivers.forename, drivers.surname, COUNT(*)
FROM drivers
        INNER JOIN pitstops ON pitstops.driverId = drivers.driverId
    INNER JOIN races ON races.raceId = pitstops.raceId
WHERE races.year = 2013
GROUP BY pitstops.driverId, pitstops.raceId, drivers.forename, drivers.surname
HAVING COUNT(*) >= ALL (SELECT COUNT(*)
                        FROM pitstops
                               GROUP BY pitstops.driverId, pitstops.raceId)
```

29.
```sql
SELECT drivers.forename, drivers.surname
FROM drivers
WHERE NOT EXISTS (SELECT *
                  FROM races
                  WHERE year = 2017
                    AND NOT EXISTS (SELECT *
                                    FROM results
                                    WHERE positionOrder <= 10
                                      AND results.driverId = drivers.driverId
                                      AND results.raceId = races.raceId))
```

30.
```sql
SELECT *
FROM constructors C
WHERE NOT EXISTS (SELECT *
                  FROM races R
                  WHERE year=2006
                  AND NOT EXISTS (SELECT *
                                  FROM qualifying
                                  WHERE qualifying.raceId=R.raceId
                                  AND qualifying.constructorId=C.constructorId
                                  AND position <= 10))
```

31.
```sql
SELECT forename, surname, suma
FROM(SELECT driverId, year, SUM(points) as suma
     FROM results JOIN races ON results.raceId=races.raceId
     WHERE year BETWEEN 1990 AND 2000
     GROUP BY driverId, year
     HAVING SUM(points)>0) AS puntuaciones
JOIN drivers ON puntuaciones.driverId=drivers.driverId
WHERE suma >= ALL (SELECT SUM(points)
                   FROM results JOIN races ON results.raceId=races.raceId
                   WHERE year BETWEEN 1990 AND 2000
                   GROUP BY driverId, year
                   HAVING SUM(points)>0)
```

32.
```sql
    SELECT drivers.forename, drivers.surname, COUNT(*)
FROM drivers
        INNER JOIN pitstops ON pitstops.driverId = drivers.driverId
    INNER JOIN races ON races.raceId = pitstops.raceId
WHERE races.year = 2013
GROUP BY pitstops.driverId, pitstops.raceId, drivers.forename, drivers.surname
HAVING COUNT(*) >= ALL (SELECT COUNT(*)
                        FROM pitstops
                               GROUP BY pitstops.driverId, pitstops.raceId)
```