Practice Writing SQL Queries using Real Dataset

Data set used :-

Link: https://www.kaggle.com/datasets/heesoo37/120-years-of-olympic-history-athletes-and-results/data

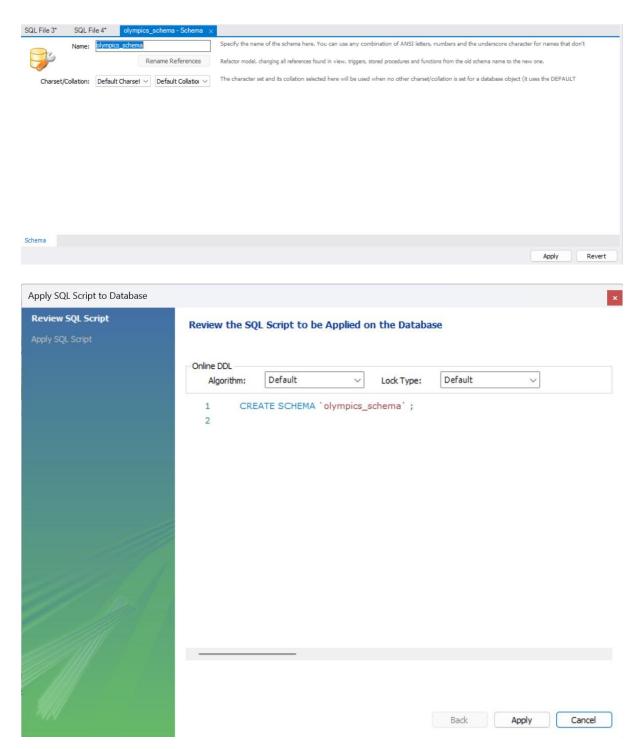
120 Years of Olympics History dataset from Kaggle from the user rgriffin. This way instead of using cooked up data, we shall use real data to write our SQL Queries. By having real data, it will be much easier for us to understand the data and then relate to it and write different types of queries over it.

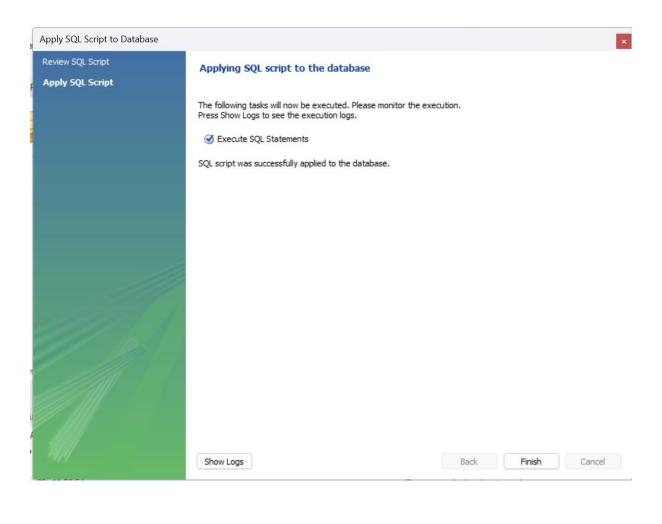
The queries answered are:-

- Q1) How many Olympics games have been held?
- Q2) List down all Olympics games held so far?
- Q3) Mention the total no of nations who participated in each Olympics game?
- Q4) Which year saw the highest and lowest no of countries participating in Olympics?
- Q5) Which Nation or Nations have participated in all Olympic Games?
- Q6) Identity the sport which was played in all summer Olympics?
- Q7) Which sports where played only once in the Olympics?
- Q8) Fetch total no of sports played in each Olympic game?
- Q9) Fetch oldest athlete to win gold medal?
- Q10) Find the ratio of Male and Female athletes participated in all Olympic games?
- Q11) Fetch top 5 athletes who have won maximum Gold medals?
- Q12) Fetch Top 5 athletes who have won most Medals (Gold, Silver, Bronze)?
- Q13) Fetch top 5 Countries in Olympics defined by number of total medals won.
- Q14) List down total Gold, Silver and Bronze medals won by each country?
- Q15) List down Gold, Silver and Bronze medal won by each country corresponding to each Olympic Game?
- Q16) Identify which country won the most Gold most Silver and most Bronze in each Olympic Game?
- Q17) Identify which country won the most gold, most silver, most bronze medals and the most medals in each Olympic games?
- Q18) Fetch Countries Which have never Won Gold but have won Silver & Bronze?
- Q19) In which sport or event India has won the maximum medals?

Q 20) Break down all Olympic games where India won medal for Hockey and how many medals in each Olympic games?

To load the data we created a new schema:-





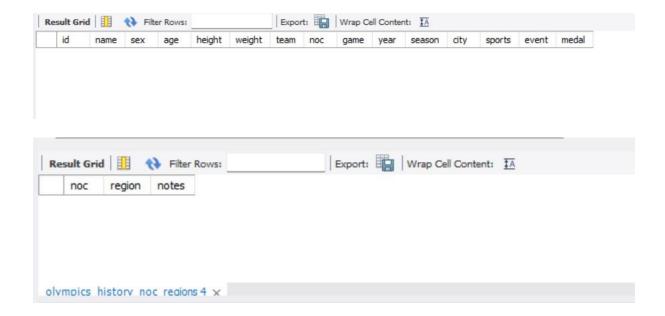
In the new schema we created two new tables:-

```
DROP TABLE IF EXISTS olympics_history;
  1

    ● CREATE TABLE IF NOT EXISTS olympics_history(

  2
  3
              id
                            INT.
  4
              name
                            VARCHAR(50),
                            VARCHAR(2),
  5
              sex
                            VARCHAR(2),
  6
              age
  7
             height
                            VARCHAR(5),
             weight
                            VARCHAR(5),
  8
  9
             team
                            VARCHAR(50),
                            VARCHAR(50),
 10
              noc
                            VARCHAR(25),
 11
              game
 12
             year
                            INT,
                            VARCHAR(20),
 13
              season
 14
             city
                            VARCHAR(50),
 15
                            VARCHAR(20),
              sports
 16
              event
                            VARCHAR(20),
 17
             medal
                            VARCHAR(20)
 18
         );
      DROP TABLE IF EXISTS olympics_history_noc_regions;
21 • ○ CREATE TABLE IF NOT EXISTS olympics_history_noc_regions(
                     VARCHAR(50),
22
          noc
23
          region
                     VARCHAR(50),
24
          notes
                     VARCHAR(50)
25
          );
```

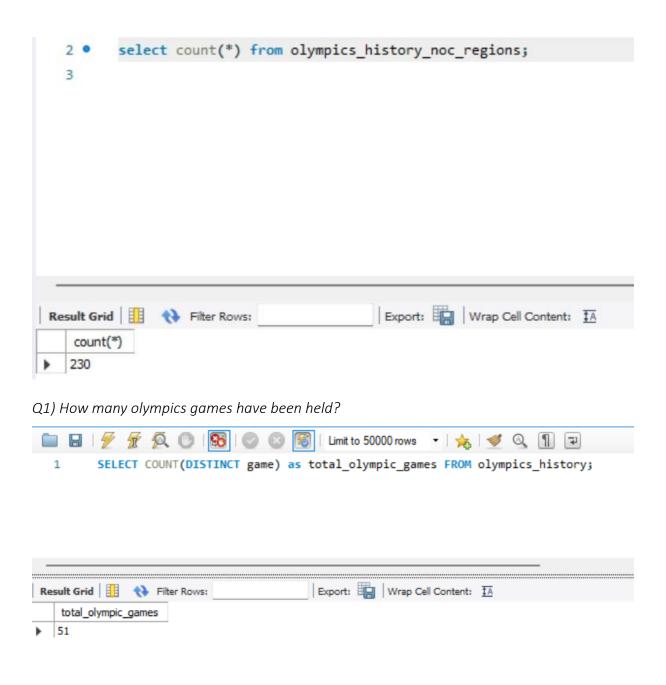
Checking the tables created:-



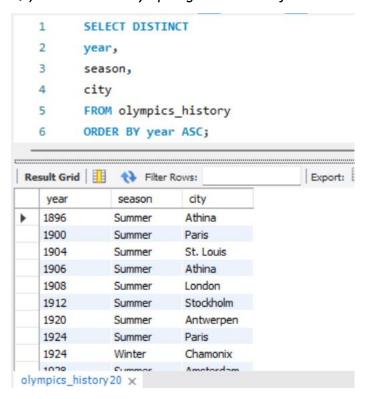
Checking the data imported into the tables:-

```
select count(*) from olympics_history;
```

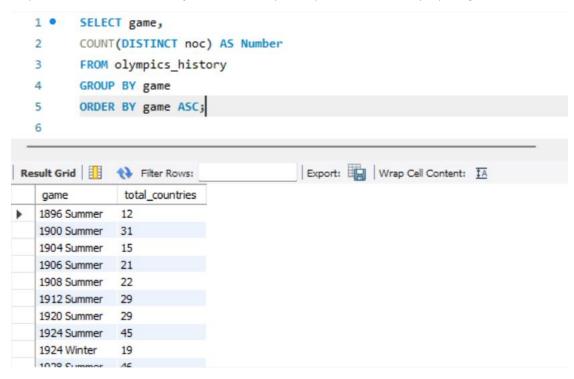




Q2) List down all Olympics games held so far?



Q3) Mention the total no of nations who participated in each Olympics game?



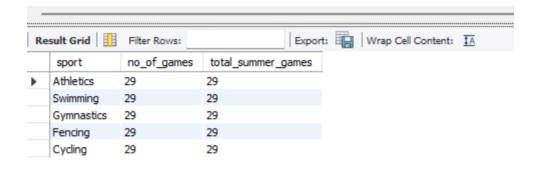
Q4) Which year saw the highest and lowest no of countries participating in Olympics?

```
CREATE TABLE game_total_countries SELECT game,
  2
       COUNT(DISTINCT noc) AS Number
       FROM olympics_history
  4
       GROUP BY game
  5
       ORDER BY game ASC;
 6 ● ○ WITH t1 AS (SELECT game, Number FROM game_total_countries where Number
           = (select max(Number) from game total countries) ),
     = (select min(Number) from game_total_countries) )
 9
       SELECT
 10
 11
           t1.game AS GAME, t1.Number AS MAX Number, t2.game AS GAME, t2.Number AS MIN Number
       FROM t1 LEFT JOIN t2 ON 1=1
 12
Result Grid | | Filter Rows:
                                 Export: Wrap Cell Content: 1A
  GAME
             MAX_Number GAME
                                  MIN_Number
 2016 Summer
                       1896 Summer
```

Q5) Which Nation or Nations have participated in all Olympic Games?

```
1 • WITH tot_games AS
                      (SELECT count(DISTINCT game) AS total_games
  2
  3
                      FROM olympics_history),
 4
                  countries AS
  5
                      (SELECT game, olympics_history_noc_regions.region AS country
  6
                      FROM olympics_history
                      JOIN olympics_history_noc_regions ON olympics_history_noc_regions.noc=olympics_history.noc
                      GROUP BY game, olympics_history_noc_regions.region),
 9
                  countries participated AS
                     (SELECT country, COUNT(1) AS total_participated_games
 10
                     FROM countries
 11
 12
                      GROUP BY country)
 13
              SELECT countries_participated.* FROM countries_participated
              JOIN tot_games ON tot_games.total_games = countries_participated.total_participated_games;
                                    Export: Wrap Cell Content: IA
Result Grid | Filter Rows:
             total_participated_games
 France
             51
  Italy
  Switzerland
            51
  UK
             51
```

```
1
       WITH t1 AS
           (SELECT COUNT(DISTINCT game) AS total_summer_games
 2
 3
           FROM olympics_history
           WHERE season = 'Summer' ),
 4
      t2 AS
 5
           (SELECT DISTINCT sport, game FROM olympics_history
 6
           WHERE season = 'Summer' ),
 7
      t3 AS
 8
           (SELECT sport, COUNT(game) AS no_of_games FROM t2
 9
           GROUP BY sport)
10
       SELECT * FROM t3
11
12
       JOIN t1 ON t1.total_summer_games = t3.no_of_games;
```



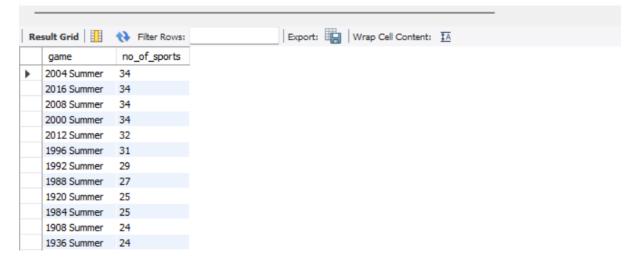
Q7) Which sports where played only once in the Olympics?

```
1 •
       WITH t1 AS
           (SELECT sport, COUNT(DISTINCT game) AS no_of_games
           FROM olympics history
 3
           GROUP BY sport),
 4
       t2 AS
 5
           (SELECT distinct game, sport
 6
           FROM olympics history
 7
           ORDER BY game)
 8
       SELECT t1.*, t2.game
 9
             FROM t1
10
             JOIN t2 ON t2.sport = t1.sport
11
             WHERE t1.no_of_games = 1
12
             ORDER BY t2.game;
13
```



Q8) Fetch total no of sports played in each Olympic game?

```
SELECT game, COUNT(DISTINCT sport) AS no_of_sports
FROM olympics_history
GROUP BY game
ORDER BY no_of_sports desc;
```



```
WITH t1 AS
  1
  2
                      (select name, sex, team, game, sport, city, medal,
                      (CASE WHEN age = 'NA' then 0 ELSE age END) AS age
  3
                      FROM olympics_history),
  4
             t2 AS
  5
  6
             (SELECT *,
  7
             RANK() OVER (ORDER BY age DESC) AS rnk
             FROM t1
  8
             WHERE medal= "gold")
         SELECT * FROM t2
 10
         WHERE rnk=1;
 11
Result Grid Filter Rows:
                                       Export: Wrap Cell Content: IA
                                                              city
                     sex
                           team
                                        game
                                                     sport
                                                                        medal
                                                                               age
                                                                                     rnk
  Oscar Gomer Swahn
                                       1912 Summer
                                                                              64
                          Sweden
                                                             Stockholm
                                                                        Gold
                    М
                                                    Shooting
                                                                                     1
  Charles Jacobus
                    M
                          United States 1904 Summer
                                                    Roque
                                                             St. Louis
                                                                        Gold
                                                                              64
```

Q10) Find the ratio of Male and Female athletes participated in all Olympic games?

```
1 •
      WITH t1 AS
    3
                FROM olympics_history
                GROUP BY sex),
 4
 5
    6
     FROM t1),
 7
 8
      max cnt AS
 9
      (SELECT cnt FROM t2 WHERE rnk = 1),
      min_cnt AS
10
      (SELECT cnt FROM t2 WHERE rnk = 2)
11
      SELECT CONCAT('1 : ' , ROUND(max_cnt.cnt / min_cnt.cnt , 2)) AS female_male_ratio
12
13
      FROM min_cnt, max_cnt;
 14
Result Grid Filter Rows:
                             Export: Wrap Cell Content: TA
  female_male_ratio
1:2.64
```

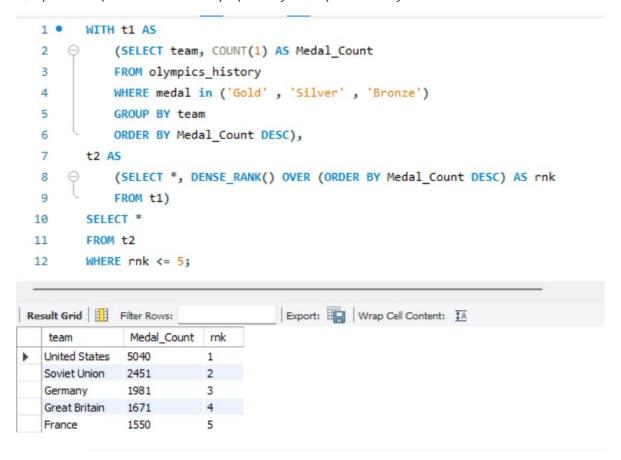
Q11) Fetch top 5 athletes who have won maximum Gold medals?

```
WITH t1 AS
  1 .
  2
            (SELECT name, COUNT(1) AS Gold_Count
            FROM olympics_history
  3
           WHERE medal = 'Gold'
  4
            GROUP BY name
  5
            ORDER BY Gold Count DESC),
  6
  7
        t2 AS
            (SELECT *, DENSE_RANK() OVER (ORDER BY Gold_Count DESC) AS rnk
  8
  9
            FROM t1)
        SELECT *
 10
        FROM t2
 11
       WHERE rnk <= 5;
 12
......
                              Gold_Count rnk
    name
                               23
                                          1
   Michael Fred Phelps, II
                                          2
   Raymond Clarence "Ray"" Ewry"
                            10
                                          3
   Larysa Semenivna Latynina (Diriy-) 9
   Frederick Carlton "Carl"" Lewis"
                            9
                                          3
   Paavo Johannes Nurmi
                                          3
   Mark Andrew Spitz
                               9
                                          3
   Matthew Nicholas "Matt" Biondi"
                                          4
                                          4
   Ole Einar Bjrndalen
                               8
   Usain St. Leo Bolt
                                          4
   Birgit Fischer-Schmidt
                               8
   Sawao Kato
                                          4
   Jennifer Elisabeth "Jenny"" Thomp... 8
                                          4
   Donald Arthur "Don" "Schollander"
                               7
                                          5
   Borys Anfiyanovych Shakhlin
                                          5
                               7
   Nikolay Yefimovich Andrianov
                               7
                                          5
                                          5
   Vra slavsk (-Odloilov)
                              7
   Viktor Tvanovych Chukarin
```

```
1 • WITH t1 AS
         (SELECT name, team, COUNT(1) AS Medal_Count
 2
 3
          FROM olympics_history
          WHERE medal in ('Gold', 'Silver', 'Bronze')
 4
          GROUP BY name, team
 5
          ORDER BY Medal_Count DESC),
     t2 AS
 7
          (SELECT *, DENSE_RANK() OVER (ORDER BY Medal_Count DESC) AS rnk
 8
          FROM t1)
 9
10
      SELECT *
      FROM t2
11
       WHERE rnk <= 5;
12
```

	name	team	Medal_Count	rnk
 	Michael Fred Phelps, II	United States	28	1
l	Larysa Semenivna Latynina (Diriy-)	Soviet Union	18	2
1	Nikolay Yefimovich Andrianov	Soviet Union	15	3
(Ole Einar Bjrndalen	Norway	13	4
E	Edoardo Mangiarotti	Italy	13	4
1	Takashi Ono	Japan	13	4
E	Borys Anfiyanovych Shakhlin	Soviet Union	13	4
	Jennifer Elisabeth "Jenny"" Thompson (-Cumpelik)"	United States	12	5
[Dara Grace Torres (-Hoffman, -Minas)	United States	12	5
1	Natalie Anne Coughlin (-Hall)	United States	12	5
	Sawao Kato	Japan	12	5
F	Ryan Steven Lochte	United States	12	5
1	Aleksey Yuryevich Nemov	Russia	12	5
F	Paavo Johannes Nurmi	Finland	12	5

Q13) Fetch top 5 Countries in Olympics defined by number of total medals won.



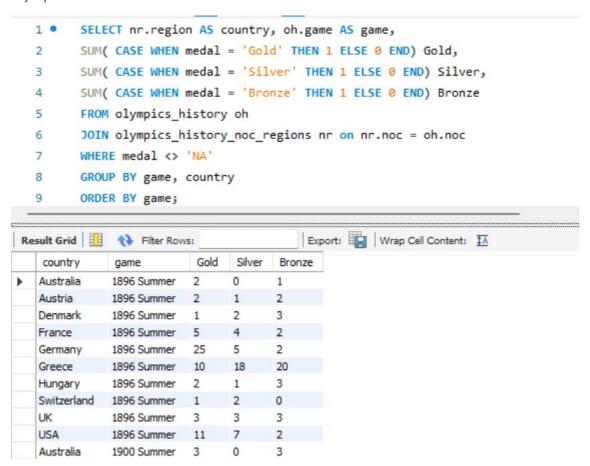
Q14) List down total Gold, Silver and Bronze medals won by each country?

```
1 •
        SELECT nr.region AS country,
        SUM( CASE WHEN medal = 'Gold' THEN 1 ELSE 0 END) Gold,
  2
  3
        SUM( CASE WHEN medal = 'Silver' THEN 1 ELSE @ END) Silver,
        SUM( CASE WHEN medal = 'Bronze' THEN 1 ELSE 0 END) Bronze
  4
        FROM olympics_history oh
  5
        JOIN olympics_history_noc_regions nr on nr.noc = oh.noc
  6
        WHERE medal <> 'NA'
  7
  8
        GROUP BY country
        ORDER BY Gold DESC, Silver DESC, Bronze DESC;
  9
Export: Wrap Cell Content: IA
   country
           Gold
                 Silver
                       Bronze
           2535
                       1306
  USA
                1596
  Russia
           1597 1170 1178
                      1258
  Germany
           1300
                1194
  UK
          677
                738
                      651
  Italy
           575
                531
                       531
  France
          501 610
                      666
  Sweden
           477
                522
                       535
  Canada
          462 435
                      447
  Hungary
           432
                       371
                      294
          378 361
  Norway
```

200

450

Q15) List down Gold, Silver and Bronze medal won by each country corresponding to each Olympic Game?



Q16) Identify which country won the most Gold most Silver and most Bronze in each Olympic Game?

```
WITH t1 AS
               (SELECT CONCAT(game, " - ", nr.region) AS games_country, game,
2 ⊖
               SUM( CASE WHEN medal = 'Gold' THEN 1 ELSE @ END) Gold,
               SUM( CASE WHEN medal = 'Silver' THEN 1 ELSE 0 END) Silver,
              SUM( CASE WHEN medal = 'Bronze' THEN 1 ELSE @ END) Bronze
6
               FROM olympics_history oh
              JOIN olympics_history_noc_regions nr on nr.noc = oh.noc
              WHERE medal <> 'NA'
              GROUP BY game, games_country
9
10
              ORDER BY games_country),
11
              (SELECT Gold, Silver, Bronze, game, SUBSTRING(games_country, 1, POSITION(" - " IN games_country) - 1) AS games,
12 ⊖
               SUBSTRING(games_country, POSITION(" - " IN games_country) + 3) AS country
13
               FROM t1)
```

```
SELECT DISTINCT game,

CONCAT(FIRST_VALUE(Gold) OVER (PARTITION BY game ORDER BY Gold DESC),

" - ",

FIRST_VALUE(country) OVER (PARTITION BY game ORDER BY Gold DESC)) as Gold,

CONCAT(FIRST_VALUE(Silver) OVER (PARTITION BY game ORDER BY Silver DESC),

" - ",

FIRST_VALUE(country) OVER (PARTITION BY game ORDER BY Silver DESC)) as Silver,

CONCAT(FIRST_VALUE(Bronze) OVER (PARTITION BY game ORDER BY Bronze DESC),

" - ",

FIRST_VALUE(Country) OVER (PARTITION BY game ORDER BY Bronze DESC),

" - ",

FIRST_VALUE(country) OVER (PARTITION BY game ORDER BY Bronze DESC)) as Bronze

FROM t2

ORDER BY game;
```

	game	Gold	Silver	Bronze
١	1896 Summer	25 - Germany	18 - Greece	20 - Greece
	1900 Summer	59 - UK	101 - France	82 - France
	1904 Summer	126 - USA	140 - USA	124 - USA
	1906 Summer	24 - Greece	48 - Greece	30 - Greece
	1908 Summer	146 - UK	131 - UK	90 - UK
	1912 Summer	103 - Sweden	64 - UK	59 - UK
	1920 Summer	106 - USA	71 - France	66 - Belgium
	1924 Summer	92 - USA	51 - France	48 - USA
	1924 Winter	16 - UK	10 - USA	11 - UK
	1928 Summer	46 - USA	29 - Netherlands	41 - Germany
	1928 Winter	12 - Canada	13 - Sweden	12 - Switzerl
	1932 Summer	75 - USA	45 - USA	57 - USA
	1932 Winter	14 - Canada	19 - USA	14 - Germany
	1936 Summer	92 - Germany	70 - Germany	61 - Germany
	1936 Winter	12 - UK	13 - Canada	11 - USA
	1948 Summer	80 - LISA	42 - LIK	32 - LISA

Q17) Identify which country won the most gold, most silver, most bronze medals and the most medals in each Olympic games.?

```
WITH t1 AS
              (SELECT CONCAT(game, " - ", nr.region) AS games_country, game,
2
              SUM( CASE WHEN medal = 'Gold' THEN 1 ELSE 0 END) Gold,
              SUM( CASE WHEN medal = 'Silver' THEN 1 ELSE 0 END) Silver,
             SUM( CASE WHEN medal = 'Bronze' THEN 1 ELSE @ END) Bronze,
 5
             SUM( CASE WHEN medal = 'Bronze' or 'Silver' or 'Bronze' THEN 1 ELSE 0 END) Max_medal
              FROM olympics_history oh
 8
              JOIN olympics_history_noc_regions nr on nr.noc = oh.noc
              WHERE medal <> 'NA'
10
              GROUP BY game, games_country
11
              ORDER BY games_country),
12
          t2 AS
              (SELECT Gold, Silver, Bronze, Max_medal, game, SUBSTRING(games_country, 1, POSITION(" - " IN games_country) - 1) AS games,
13 ⊝
              SUBSTRING(games_country, POSITION(" - " IN games_country) + 3) AS country
14
              FROM t1)
```

```
16
      SELECT DISTINCT game,
17 \ominus CONCAT(FIRST_VALUE(Gold) OVER (PARTITION BY game ORDER BY Gold DESC),
18
              FIRST_VALUE(country) OVER (PARTITION BY game ORDER BY Gold DESC)) as Gold,
19
20 \ominus CONCAT(FIRST_VALUE(Silver) OVER (PARTITION BY game ORDER BY Silver DESC),
22
              FIRST_VALUE(country) OVER (PARTITION BY game ORDER BY Silver DESC)) as Silver,
23

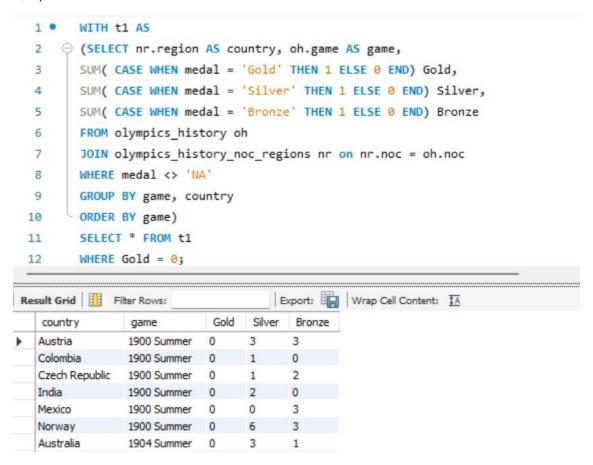
→ CONCAT(FIRST_VALUE(Bronze ) OVER (PARTITION BY game ORDER BY Bronze DESC),

24
25
              FIRST_VALUE(country) OVER (PARTITION BY game ORDER BY Bronze DESC)) as Bronze,
26

→ CONCAT(FIRST_VALUE(Max_medal) OVER (PARTITION BY game ORDER BY Max_medal DESC),

27
              FIRST_VALUE(country) OVER (PARTITION BY game ORDER BY Max_medal DESC)) as Max_medal
28
29
     ORDER BY game;
30
```

	game	Gold	Silver	Bronze	Max_medal
•	1896 Summer	25 - Germany	18 - Greece	20 - Greece	20 - Greece
	1900 Summer	59 - UK	101 - France	82 - France	82 - France
	1904 Summer	126 - USA	140 - USA	124 - USA	124 - USA
	1906 Summer	24 - Greece	48 - Greece	30 - Greece	30 - Greece
	1908 Summer	146 - UK	131 - UK	90 - UK	90 - UK
	1912 Summer	103 - Sweden	64 - UK	59 - UK	59 - UK
	1920 Summer	106 - USA	71 - France	66 - Belgium	66 - Belgium
	1924 Summer	92 - USA	51 - France	48 - USA	48 - USA
	1924 Winter	16 - UK	10 - USA	11 - UK	11 - UK
	1928 Summer	46 - USA	29 - Netherlands	41 - Germany	41 - Germany
	1928 Winter	12 - Canada	13 - Sweden	12 - Switzerl	12 - Switzerl
	1932 Summer	75 - USA	45 - USA	57 - USA	57 - USA
	1932 Winter	14 - Canada	19 - USA	14 - Germany	14 - Germany
	1936 Summer	92 - Germany	70 - Germany	61 - Germany	61 - Germany
	1936 Winter	12 - UK	13 - Canada	11 - USA	11 - USA
	1948 Summer	80 - USA	42 - LIK	32 - USA	32 - USA



Q19) In which sport or event India has won the maximum medals?

```
WITH t1 AS
  1 •
  2
                 (SELECT sport, COUNT(1) AS total_medals
                 FROM olympics history
                 WHERE medal <> 'NA'
                 AND team = 'India'
  5
                 GROUP BY sport
  6
                 ORDER BY total_medals DESC),
             t2 AS
  8
  9
                 (SELECT *, RANK() OVER(ORDER BY total medals DESC) AS rnk
                 FROM t1)
 10
         SELECT sport, total_medals
 11
 12
         FROM t2
 13
         WHERE rnk = 1;
                                      Export: Wrap Cell Content: 1A
Result Grid Filter Rows:
   sport
           total_medals
Hockey
          173
```

Q 20) Break down all Olympic games where India won medal for Hockey and how many medals in each Olympic games?

