

SQL CASE STUDY

OLYMPICS GAMES DATASET

QUESTIONS:

- Q1. How many olympics games have been held?
- Q2. List down all Olympics games held so far.
- Q3. Mention the total no of Countries who participated in each olympics game.
- Q4. Which year was the highest and lowest no of countries participated in olympics?
- Q5. Which Country has participated in all of the olympic games?
- Q6. Identify the sport which was played at every summer olympics.
- Q7. Which Sports were just played only once in the olympics?
- Q8. Fetch the Total No of sports played in each olympic games.
- Q9. Fetch oldest athletes to win a gold medal.
- Q10. Fetch the top 5 athletes who have won the most gold medals.
- Q11. Fetch the top 5 athletes who have won the most medals.
- Q12. Fetch the top 5 most successful countries in olympics by No of medals won.
- Q13. List down total gold, silver and bronze medals won by each country.
- Q14. List down total gold, silver and bronze medals won by each country corresponding to each olympic games.
- Q15. Identify which country won the most gold, most silver and most bronze medals in each olympic games.
- Q16. Identify which country won the most gold, most silver, most bronze medals and the most medals in each olympic games.
- Q17. Which countries have never won gold medal but have won silver/bronze medals?
- Q18. In which Sport/event, India has won highest medals.
- Q19. Break down all olympic games where India won medal for Hockey and how many medals in each olympic games.

188

183

6 Per Knut Aaland M 31 188 75 6 Per Knut Aaland 33 188 M 75 6 Per Knut Aaland M 33 188 75

M

M

M

33

33

31

14

15

16 17

18

19

6 Per Knut Aaland

6 Per Knut Aaland

7 John Aalberg

United States USA 1992 Winter United States USA 1994 Winter

USA

USA

USA

USA

1994 Winter

1994 Winter

1994 Winter

1992 Winter

United States

United States

United States

United States

Total rows: 1000 of 271116 Query complete 00:00:00.853 Ln 25, Col 25

75

75

183

183

75

72

72

USA

USA

LISA

United States

United States

United States

1994 Winter

1992 Winter

1992 Winter

Ln 25, Col 25

33

31

31

M

M

M

6 Per Knut Aaland 18 7 John Aalberg 19

Query complete 00:00:00.853

7 John Aalherd

Total rows: 1000 of 271116



Ln 47, Col 1

text 1 1896 Summer-12 2016 Summer-204

Total rows: 1 of 1 Query complete 00:00:00.249



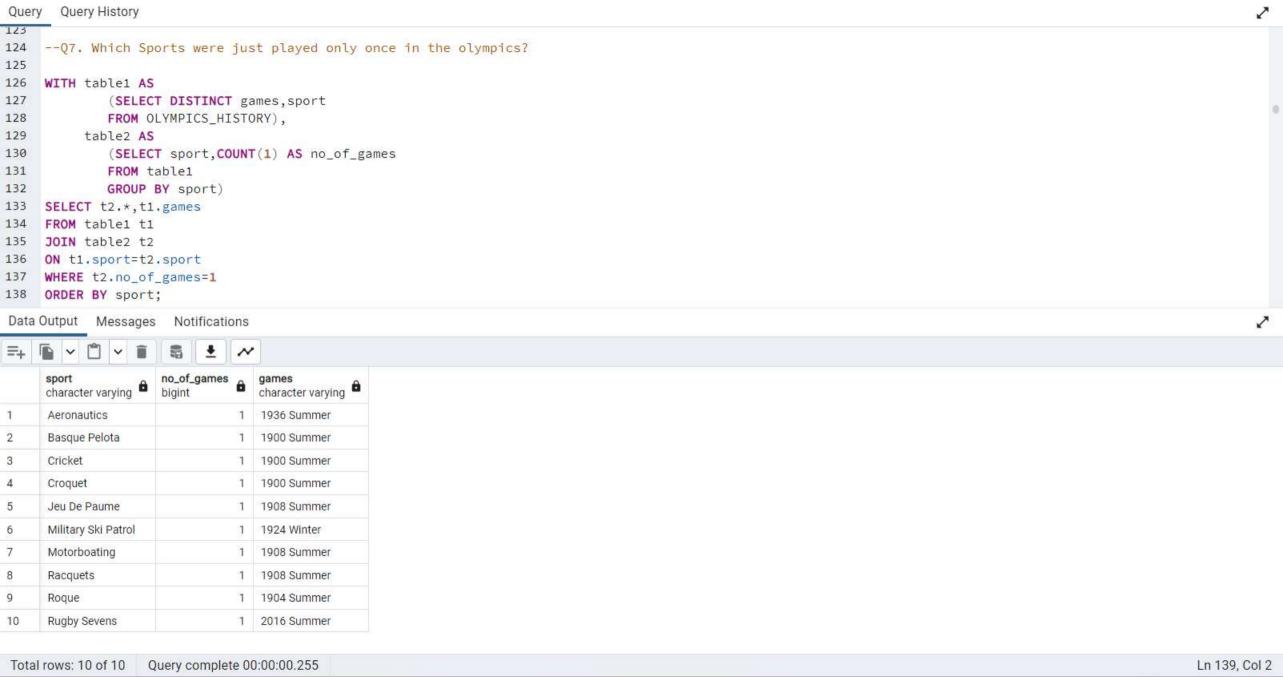
lowest_no_of_countries text

| Some of countries text | 1 | 1896 Summer-12 | 2016 Summer-204 |

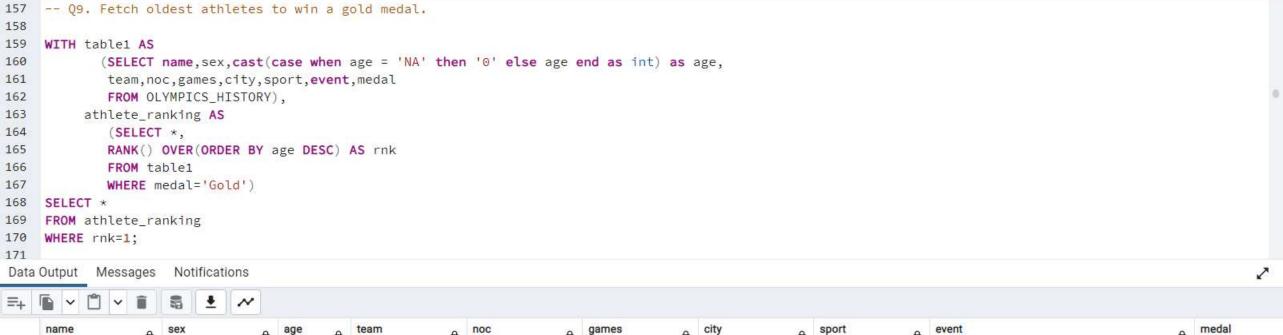
```
Query Query History
71 -- 05. Which Country has participated in all of the olympic games?
73 -- Approach-1 (Using CTE & JOIN):
    WITH Tot games AS
             (SELECT COUNT(DISTINCT (games)) as Total_games
             FROM OLYMPICS_HISTORY),
 76
          All Countries AS
 77
             (SELECT games, nr. region as Country
 78
              FROM OLYMPICS_HISTORY oh
 79
              JOIN OLYMPICS HISTORY NOC REGIONS nr ON oh.noc=nr.noc
 80
              GROUP BY games, nr. region),
 81
          count_Countries AS
 82
             (SELECT Country, COUNT(1) AS Total_Participated_games
 83
              FROM All_Countries
 84
              GROUP BY Country)
     SELECT cc.*
     FROM count_Countries cc
     JOIN Tot_games tg ON tg.Total_games=cc.Total_Participated_games ;
 89
     -- Approach-2 (Using CTE & SubQuery)
     WITH All Countries AS
             (SELECT games, nr. region AS Country
 92
 93
              FROM OLYMPICS_HISTORY oh
              JOIN OLYMPICS_HISTORY_NOC_REGIONS nr ON oh.noc=nr.noc
 94
              GROUP BY games, nr. region),
 95
          count Countries AS
 96
 97
              (SELECT Country, COUNT(1) AS Total_Participated_games
              FROM All_Countries
 98
              GROUP BY Country)
 99
     SELECT *
100
    FROM count Countries
101
     WHERE Total_Participated_games IN
102
     (SELECT COUNT(DISTINCT (games)) AS Total_games
103
104
     FROM OLYMPICS_HISTORY );
105
Total rows: 4 of 4
                Query complete 00:00:00.937
                                                                                                                                                             Ln 104, Col 25
```



	sport character varying	no_of_games bigint	total_games bigint
1	Swimming	29	29
2	Cycling	29	29
3	Fencing	29	29
4	Gymnastics	29	29
5	Athletics	29	29







Query Query History

city games character varying Oscar Gomer Swahn Sweden SWE 1912 Summer Stockholm Shooting Shooting Men's Running Target, Single Shot, Team Gold Charles Jacobus M United States USA 1904 Summer St. Louis Roque Men's Singles Gold Roque

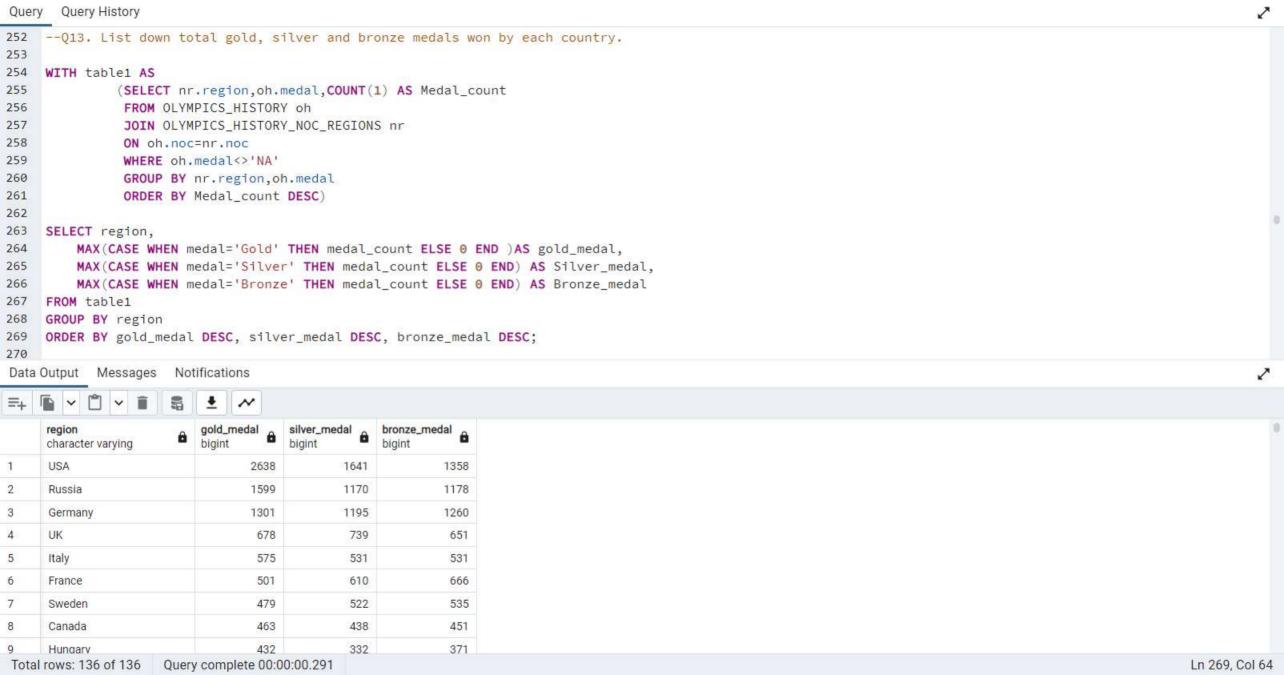
```
Query History
Query
1/1
172
     -- 010. Fetch the top 5 athletes who have won the most gold medals
174
     -- Condition1: Top 5 Athletes with most gold medals
175
     WITH table1 AS
176
177
             (SELECT name, count(1) AS Medal_count
             FROM OLYMPICS HISTORY
178
             WHERE medal='Gold'
179
180
             GROUP BY name
             ORDER BY Medal_count DESC),
181
182
          top_athletes AS
183
             (SELECT *,
184
             ROW_NUMBER() OVER(ORDER BY medal_count DESC) AS rn
             FROM table1)
185
     SELECT *
186
     FROM top_athletes
187
188
     where rn<=5;
189
     -- Condition2: Top 5 athletes considering the same medal holders as one rank
191
192
     WITH table1 AS
              (SELECT name, count(1) AS Medal_count
193
             FROM OLYMPICS_HISTORY
194
             WHERE medal='Gold'
195
             GROUP BY name
196
             ORDER BY Medal_count DESC),
197
          top_athletes AS
198
199
              (SELECT *.
             DENSE_RANK() OVER(ORDER BY medal_count DESC) AS d_rnk
200
             FROM table1)
201
     SELECT name, medal_count
202
     FROM top_athletes
203
     WHERE d_rnk<=5;
204
205
206 --Q11. Fetch the top 5 athletes who have won the most medals
Total rows: 5 of 5 Query complete 00:00:00.229
                                                                                                                                                             Ln 197, Col 31
```

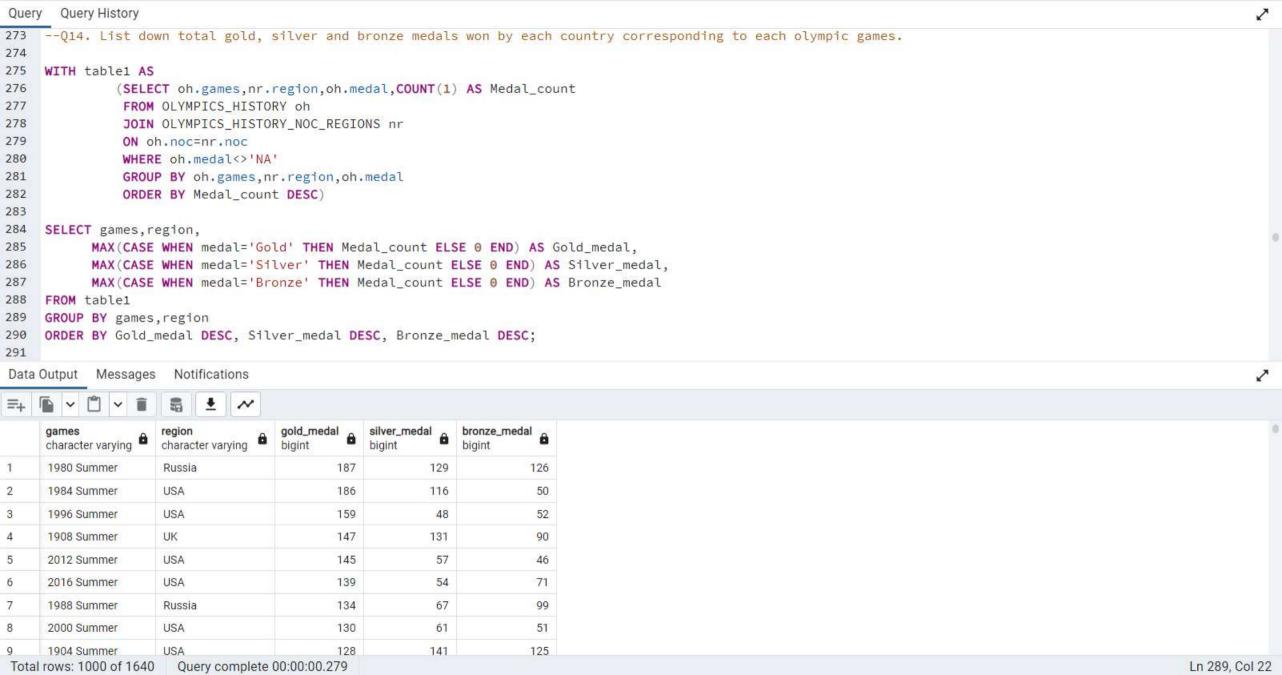
```
Query History
Query
205
     --Q11. Fetch the top 5 athletes who have won the most medals
207
     -- Condition1: Top 5 Athletes with most medals
208
     SELECT name, team, COUNT(1) AS Medal_count
209
     FROM OLYMPICS HISTORY
210
     WHERE medal IN ('Gold', 'Silver', 'Bronze')
211
212 GROUP BY name, team
     ORDER BY Medal_count DESC
213
     LIMIT 5;
214
215
     --Condition2: Top 5 Athletes with most medals (considering same no of medals as one rank)
216
217
218
     WITH table1 AS
              (SELECT name, team, COUNT(1) AS Medal_count
219
              FROM OLYMPICS_HISTORY
220
              WHERE medal IN ('Gold', 'Silver', 'Bronze')
221
222
             GROUP BY name, team
              ORDER BY Medal_count DESC),
223
         Top_Athletes AS
224
              (SELECT *,
225
              DENSE_RANK() OVER(ORDER BY Medal_count DESC) AS d_rnk
226
              FROM table1)
227
     SELECT *
228
229
     FROM Top_Athletes
     WHERE d_rnk<=5;
230
231
232
233
234
235
236
237
238
239
240
                                                                                                                                                               Ln 230, Col 16
Total rows: 5 of 5
                 Query complete 00:00:00.316
```



medal_count bigint rn bigint region character varying â USA 5637 2 Russia 3947 3 3 Germany 3756 4 UK 2068 France 1777 5

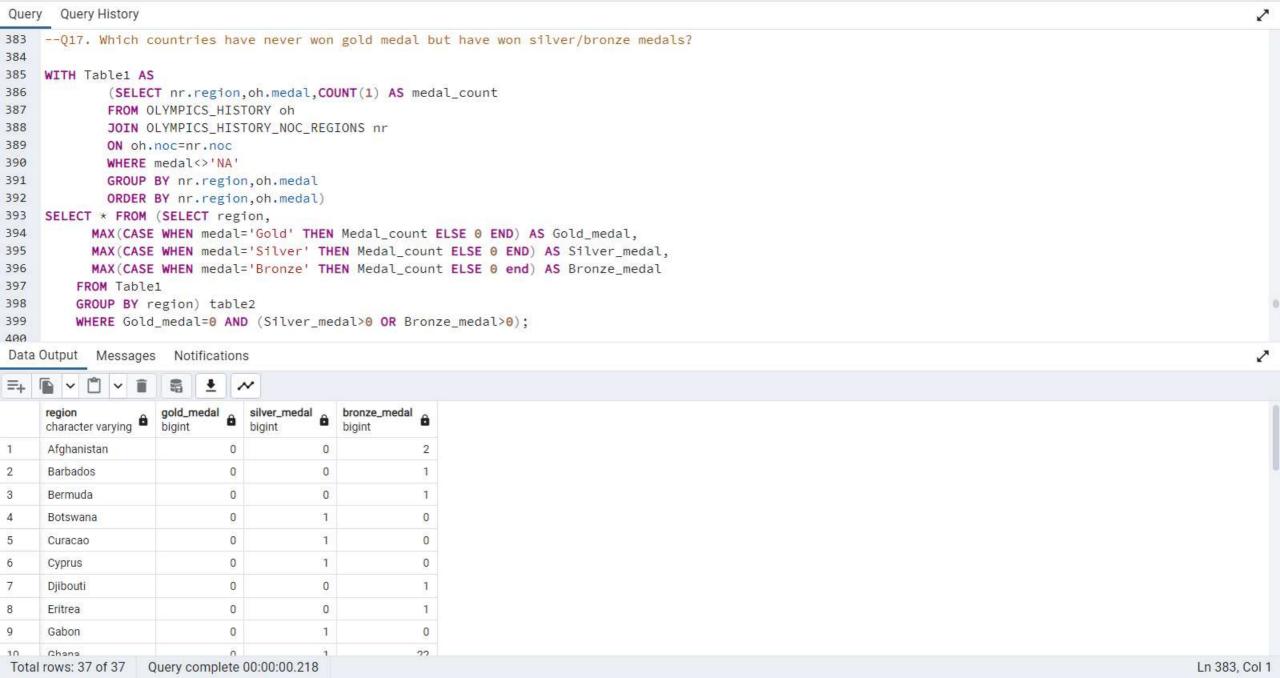
Total rows: 5 of 5 Query complete 00:00:00.286 Ln 249, Col 13





```
Query History
Query
     --O15. Identify which country won the most gold, most silver and most bronze medals in each olympic games
294
295
     WITH table1 AS
296
              (SELECT oh.games,nr.region,oh.medal,COUNT(1) AS Medal count
297
               FROM OLYMPICS_HISTORY oh
298
299
               JOIN OLYMPICS_HISTORY_NOC_REGIONS nr
               ON oh.noc=nr.noc
300
301
               WHERE oh, medal <> 'NA'
               GROUP BY oh.games,nr.region,oh.medal
302
               ORDER BY Medal_count DESC),
303
     -- SELECT * FROM table1
304
         table2 AS
305
306
              (SELECT games, region,
               MAX(CASE WHEN medal='Gold' THEN Medal_count ELSE @ END) AS Gold_medal,
307
               MAX(CASE WHEN medal='Silver' THEN Medal_count ELSE 0 END) AS Silver_medal,
308
               MAX(CASE WHEN medal='Bronze' THEN Medal count ELSE 0 end) AS Bronze medal
309
310
               FROM table1
               GROUP BY games, region
311
312
               ORDER BY Gold_medal DESC, Silver_medal DESC, Bronze_medal DESC)
     -- SELECT * FROM table2
313
     SELECT DISTINCT games,
314
315
     CONCAT(FIRST_VALUE(region) OVER(PARTITION BY games ORDER BY gold_medal DESC)
316
317
     ,FIRST_VALUE(gold_medal) OVER(PARTITION BY games ORDER BY gold_medal_DESC)) AS Max_gold_medal,
318
319
     CONCAT(FIRST_VALUE(region) OVER(PARTITION BY games ORDER BY silver medal DESC)
320
321 .'-'
     ,FIRST_VALUE(silver_medal) OVER(PARTITION BY games ORDER BY silver_medal DESC)) AS Max_silver_medal,
323
     CONCAT(FIRST_VALUE(region) OVER(PARTITION BY games ORDER BY Bronze_medal DESC)
324
325 , '-'
326 ,FIRST_VALUE(bronze_medal) OVER(PARTITION BY games ORDER BY bronze_medal DESC)) AS Max_bronze_medal
327 FROM table2
     ORDER BY games;
Total rows: 51 of 51 Ouery complete 00:00:00.250
                                                                                                                                                             Ln 294, Col 1
```

JOIN tot medals tm ON tm.games=mm.games AND tm.region=mm.region ORDER BY games:



```
Query History
Query
401
    -- Q18. In which Sport/event, India has won highest medals.
403
     -- Approach-1 (Window Function)
404
405
     WITH Total_medals AS
406
407
              (SELECT oh.sport, COUNT (medaL) as Medal_count
             FROM OLYMPICS HISTORY oh
408
             JOIN OLYMPICS_HISTORY_NOC_REGIONS nr
409
             ON oh.noc=nr.noc
410
             WHERE medal<>'NA' AND REGION='India'
411
412
             GROUP BY sport),
          Highest medal AS
413
414
             (SELECT *,
             RANK() OVER(ORDER BY Medal_count DESC) as rnk
415
             FROM Total medals)
416
     SELECT sport, Medal_count
417
     FROM Highest_medal
418
     WHERE rnk=1;
419
420
     -- Approach-2 (SubQuery)
421
422
     WITH Total medals AS
423
              (SELECT oh.sport, COUNT (medaL) as Medal_count
424
425
             FROM OLYMPICS HISTORY oh
             JOIN OLYMPICS_HISTORY_NOC_REGIONS nr
426
427
             ON oh.noc=nr.noc
             WHERE medal<>'NA' AND REGION='India'
428
             GROUP BY sport)
429
     SELECT sport, Medal_count
430
     FROM Total medals
431
     WHERE medal_count IN (SELECT MAX(Medal_count) FROM Total_medals);
432
433
434
435
436
                 Query complete 00:00:00.225
                                                                                                                                                              Ln 432, Col 66
Total rows: 1 of 1
```