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1
2  -- dataset : https://www.kaggle.com/datasets/heesoo37/120-years-of-olympic-  ↗
   history-athletes-and-results
3  create database olympics
4  USE olympics;
5  SELECT * FROM ATHLETE_EVENTS
6  SELECT * FROM noc_regions
7
8
9  --QUERIES:
10 -- 1.How many olympics games have been held?
11
12 SELECT COUNT(DISTINCT GAMES) FROM athlete_events
13
14 -- 2.List down all Olympics games held so far.
15
16 SELECT YEAR, SEASON, CITY FROM athlete_events
17 GROUP BY Season, City, YEAR
18 ORDER BY YEAR ASC
19
20 --OR
21 SELECT DISTINCT YEAR, SEASON, CITY FROM athlete_events
22 ORDER BY YEAR;
23
24
25
26 -- 3.Mention the total no of nations who participated in each olympics game?
27
28 with all_countries as
29     (select games, nr.region
30      from athlete_events ah
31      join noc_regions nr
32      ON nr.noc= ah.noc
33      group by games, nr.region)
34 select games, count(1) as total_countries
35 from all_countries
36 group by games
37 order by games;
38
39 --Or // this method was tried but values varies
40 select games, COUNT(distinct team) as total_countries from athlete_events
41 group by Games;
42
43
44 -- 4.Which year saw the highest and lowest no of countries participating in  ↗
   olympics?
45 with all_countries as
46     (select games, nr.region
47      from athlete_events ae
48      join noc_regions nr
49      ON nr.noc=ae.noc
50      group by games, nr.region),---||joined the two tables and  ↗
   extract the games and region fields
51     --- and therefore grouping the games  ↗
   and the countries.
52 tot_countries as
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53         (select games, count(1) as total_countries
54         from all_countries
55         group by games)
56
57     select distinct
58     concat(first_value(games) over(order by total_countries)
59     , ' - '
60     , first_value(total_countries) over(order by total_countries)) as   ↗
        Lowest_Countries,
61
62     concat(first_value(games) over(order by total_countries desc)
63     , ' - '
64     , first_value(total_countries) over(order by total_countries desc)) as   ↗
        Highest_Countries
65     from tot_countries
66     order by 1;
67
68 -----↗
69 //-----↗
70 WITH COUNTRIES AS (
71     SELECT YEAR, COUNT(DISTINCT NOC) AS num_countries
72     FROM ATHLETE_EVENTS
73     GROUP BY YEAR
74 )
75
76 SELECT
77     MAX(num_countries) AS highest_num_countries,
78     (SELECT TOP 1 YEAR FROM COUNTRIES WHERE num_countries = (SELECT MAX   ↗
79     (num_countries) FROM COUNTRIES)) AS highest_year,
79     MIN(num_countries) AS lowest_num_countries,
80     (SELECT TOP 1 YEAR FROM COUNTRIES WHERE num_countries = (SELECT MIN   ↗
81     (num_countries) FROM COUNTRIES)) AS lowest_year
82 FROM COUNTRIES;
83
84
85
86
87
88 ---5. Which nation has participated in all of the olympic games?
89
90 SELECT TEAM AS NATIONS, count(distinct games) as Total_participated_games FROM ↗
91 athlete_events
92 GROUP BY Team
93 HAVING COUNT(DISTINCT Games) = (SELECT COUNT(DISTINCT Games) FROM   ↗
94 athlete_events);
95
96 ----- OR
97
98 with tot_games as
99     (select count(distinct games) as total_games
100     from athlete_events),
101 countries as
102     (select games, nr.region as country

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101     from athlete_events ae
102     join noc_regions nr
103     ON nr.noc=ae.noc
104     group by games, nr.region),
105 countries_participated as
106     (select country, count(1) as total_participated_games
107     from countries
108     group by country)
109 select cp.*
110 from countries_participated cp
111 join tot_games tg
112 on tg.total_games = cp.total_participated_games
113 order by total_participated_games;
114
115
116
117
118 -- 6.Identify the sport which was played in all summer olympics.
119 with table1 as
120     (select COUNT( distinct games) as total_summer_games from athlete_events
121     where Season= 'summer'),
122
123 table2 as
124     ( select distinct sport,games
125     from athlete_events
126     where Season = 'summer'
127     ),
128
129 table3 as
130     (select sport,count(games) as no_of_games
131     from table2
132     group by sport)
133
134 select *
135 from table3
136 join table1
137 on table1.total_summer_games=table3.no_of_games;
138
139
140 -- 7.Which Sports were just played only once in the olympics?
141
142 Select distinct sport, no_of_games
143 from
144     (select sport,count(distinct games) as no_of_games
145     from athlete_events
146     group by Sport
147     )as table1
148
149 where no_of_games = 1;
150
151 ---OR //////////////////////////////////////
152 with t1 as
153     (select distinct games, sport
154     from athlete_events),
155 t2 as
156     (select sport, count(1) as no_of_games
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157         from t1
158         group by sport)
159     select t2.*, t1.games
160     from t2
161     join t1 on t1.sport = t2.sport
162     where t2.no_of_games = 1
163     order by t1.sport;
164
165
166 -- 8.Fetch the total no of sports played in each olympic games.
167
168 with table1 as
169     (select distinct games,Sport
170     from athlete_events
171     ),
172
173     table2 as
174     (select Games, COUNT(1)as no_of_sport
175     from table1
176     group by Games
177     )
178 select * from table2
179 order by no_of_sport desc;
180
181 ---OR////////////////////////////////////
182
183 Select games,count(1) as no_of_sport
184 from
185     (select distinct games, sport
186     from athlete_events) as table1
187 group by Games
188 order by no_of_sport desc;
189
190
191 -- 9.Fetch details of the oldest athletes to win a gold medal.
192
193 with detail as
194     (select name,sex,age
195     ,team,games,city,sport, event, medal
196     from athlete_events),
197     ranking as
198     (select *, rank() over(order by age desc) as rnk
199     from detail
200     where medal='Gold')
201 select *
202 from ranking
203 where rnk = 1;
204
205
206 -- 10.Find the Ratio of male and female athletes participated in all olympic games.
207 WITH athlete_counts AS
208     (SELECT SEX,
209     COUNT(*) AS total_athletes
210     FROM ATHLETE_EVENTS GROUP BY SEX)
211 SELECT

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212     ROUND(  
213         (SELECT total_athletes FROM athlete_counts WHERE SEX = 'M') * 1.0,  
214         2) AS male_ratio,  
215  
216     ROUND(  
217         (SELECT total_athletes FROM athlete_counts WHERE SEX = 'F') * 1.0,  
218         2) AS female_ratio ;  
219  
220 -- 11.Fetch the top 5 athletes who have won the most gold medals.  
221  
222  
223 SELECT top(5)name,team, COUNT(*) AS gold_medals  
224 FROM athlete_events  
225 WHERE medal = 'Gold'  
226 GROUP BY name,Team  
227 ORDER BY gold_medals DESC;  
228  
229  
230 -- 12.Fetch the top 5 athletes who have won the most medals (gold/silver/  
231     bronze).  
232 SELECT top(5)name,team,sport, COUNT(*) AS medals  
233 FROM athlete_events  
234 where Medal in ('gold','silver','bronze')  
235 GROUP BY name,Team,Sport  
236 ORDER BY medals DESC;  
237  
238 -- 13.Fetch the top 5 most successful countries in olympics. Success is  
239     defined by no of medals won.  
240 WITH total_countries AS (  
241     SELECT nr.region, ae.medal  
242     FROM athlete_events ae  
243     JOIN noc_regions nr  
244     ON ae.noc = nr.noc  
245 ),  
246 medal_count AS (  
247     SELECT region,  
248     COUNT(*) AS total_medals  
249     FROM total_countries  
250     WHERE medal IS NOT NULL AND medal != 'NA'  
251     GROUP BY region  
252 ),  
253 ranked_countries AS (  
254     SELECT  
255         region,  
256         total_medals,  
257         ROW_NUMBER() OVER (ORDER BY total_medals DESC) AS rank  
258     FROM medal_count  
259 )  
260  
261 SELECT  
262     region,  
263     total_medals  
264 FROM ranked_countries  
265 WHERE rank <= 5
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266 ORDER BY rank;
267
268
269
270 -- 14.List down total gold, silver and broze medals won by each country.
271
272 ---- PIVOT Table was used in this query
273
274 Select * from
275
276     (select nr.region , ae.Medal
277     from athlete_events ae
278     join noc_regions nr
279     on nr.NOC=ae.NOC
280     Where Medal <> 'NA'
281     )as tb1
282
283 Pivot
284     (
285         count(medal)
286         for medal in ([gold], [silver], [bronze])
287     ) as tb2
288
289
290 order by gold desc, silver desc, bronze desc;
291
292
293 -- 15.List down total gold, silver and broze medals won by each country
294     corresponding to each olympic games.
295
296 SELECT games, region,
297 COUNT(CASE WHEN medal = 'Gold' THEN medal END) AS Gold_medal,
298 COUNT(CASE WHEN medal = 'Silver' THEN medal END) AS Silver_medal,
299 COUNT(CASE WHEN medal = 'Bronze' THEN medal END) AS Bronze_medal
300 FROM athlete_events AS a
301 JOIN noc_regions AS n
302 ON a.NOC = n.NOC
303 GROUP BY games,region
304 order by games;
305
306 -- 16.Identify which country won the most gold, most silver and most bronze
307     medals in each olympic games.
308
309 WITH Medal_Counts AS (
310     SELECT
311         NR.REGION AS COUNTRY,
312         AE.GAMES,
313         COUNT(CASE WHEN AE.MEDAL = 'Gold' THEN 1 END) AS Gold_Medals,
314         COUNT(CASE WHEN AE.MEDAL = 'Silver' THEN 1 END) AS Silver_Medals,
315         COUNT(CASE WHEN AE.MEDAL = 'Bronze' THEN 1 END) AS Bronze_Medals
316     FROM ATHLETE_EVENTS AE
317     JOIN NOC_REGIONS NR ON NR.NOC = AE.NOC
318     GROUP BY NR.REGION, AE.GAMES
319 ),
320
321 Gold_Winners AS (
322     SELECT COUNTRY, GAMES, Gold_Medals,

```

```

320         ROW_NUMBER() OVER (PARTITION BY GAMES ORDER BY Gold_Medals DESC) AS rn
321     FROM Medal_Counts
322 ),
323
324 Silver_Winners AS (
325     SELECT COUNTRY, GAMES, Silver_Medals,
326         ROW_NUMBER() OVER (PARTITION BY GAMES ORDER BY Silver_Medals DESC) AS rn
327     FROM Medal_Counts
328 ),
329
330 Bronze_Winners AS (
331     SELECT COUNTRY, GAMES, Bronze_Medals,
332         ROW_NUMBER() OVER (PARTITION BY GAMES ORDER BY Bronze_Medals DESC) AS rn
333     FROM Medal_Counts
334 )
335
336 SELECT
337     G.GAMES,
338     G.COUNTRY AS Most_Gold_Country,
339     G.Gold_Medals AS Most_Gold_Medals,
340     S.COUNTRY AS Most_Silver_Country,
341     S.Silver_Medals AS Most_Silver_Medals,
342     B.COUNTRY AS Most_Bronze_Country,
343     B.Bronze_Medals AS Most_Bronze_Medals
344 FROM Gold_Winners G
345 JOIN Silver_Winners S ON G.GAMES = S.GAMES AND S.rn = 1
346 JOIN Bronze_Winners B ON G.GAMES = B.GAMES AND B.rn = 1
347 WHERE G.rn = 1
348 ORDER BY G.GAMES;
349
350
351 -- 17. Identify which country won the most gold, most silver, most bronze
352    medals and the most medals in each olympic games.
353 WITH Medal_Counts AS (
354     SELECT
355         NR.REGION AS COUNTRY,
356         AE.GAMES,
357         COUNT(CASE WHEN AE.MEDAL = 'Gold' THEN 1 END) AS Gold_Medals,
358         COUNT(CASE WHEN AE.MEDAL = 'Silver' THEN 1 END) AS Silver_Medals,
359         COUNT(CASE WHEN AE.MEDAL = 'Bronze' THEN 1 END) AS Bronze_Medals,
360         COUNT(AE.MEDAL) AS Total_Medals
361     FROM ATHLETE_EVENTS AE
362     JOIN NOC_REGIONS NR ON NR.NOC = AE.NOC
363     GROUP BY NR.REGION, AE.GAMES
364 ),
365
366 Ranked_Medals AS (
367     SELECT
368         COUNTRY,
369         GAMES,
370         Gold_Medals,
371         Silver_Medals,
372         Bronze_Medals,

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```

372     Total_Medals,
373     ROW_NUMBER() OVER (PARTITION BY GAMES ORDER BY Gold_Medals DESC) AS  ↗
        Gold_Rank,
374     ROW_NUMBER() OVER (PARTITION BY GAMES ORDER BY Silver_Medals DESC) AS  ↗
        Silver_Rank,
375     ROW_NUMBER() OVER (PARTITION BY GAMES ORDER BY Bronze_Medals DESC) AS  ↗
        Bronze_Rank,
376     ROW_NUMBER() OVER (PARTITION BY GAMES ORDER BY Total_Medals DESC) AS  ↗
        Total_Rank
377 FROM Medal_Counts
378 )
379
380 SELECT
381     GAMES,
382     MAX(CASE WHEN Gold_Rank = 1 THEN COUNTRY END) AS Most_Gold_Country,
383     MAX(CASE WHEN Gold_Rank = 1 THEN Gold_Medals END) AS Most_Gold_Medals,
384     MAX(CASE WHEN Silver_Rank = 1 THEN COUNTRY END) AS Most_Silver_Country,
385     MAX(CASE WHEN Silver_Rank = 1 THEN Silver_Medals END) AS  ↗
        Most_Silver_Medals,
386     MAX(CASE WHEN Bronze_Rank = 1 THEN COUNTRY END) AS Most_Bronze_Country,
387     MAX(CASE WHEN Bronze_Rank = 1 THEN Bronze_Medals END) AS  ↗
        Most_Bronze_Medals,
388     MAX(CASE WHEN Total_Rank = 1 THEN COUNTRY END) AS  ↗
        Most_Total_Medals_Country,
389     MAX(CASE WHEN Total_Rank = 1 THEN Total_Medals END) AS Most_Total_Medals
390 FROM Ranked_Medals
391 GROUP BY GAMES
392 ORDER BY GAMES;
393
394
395
396 -- 18.Which countries have never won gold medal but have won silver/bronze  ↗
    medals?
397 WITH T1 AS (
398     SELECT NR.REGION, AE.MEDAL
399     FROM athlete_events AE
400     JOIN noc_regions NR ON NR.NOC = AE.NOC
401 ),
402
403 medal_counts AS (
404     SELECT
405         REGION AS COUNTRY,
406         COUNT(CASE WHEN MEDAL = 'Gold' THEN 1 END) AS Gold_medal,
407         COUNT(CASE WHEN MEDAL = 'Silver' THEN 1 END) AS Silver_medal,
408         COUNT(CASE WHEN MEDAL = 'Bronze' THEN 1 END) AS Bronze_medal
409     FROM T1
410     GROUP BY REGION
411 )
412
413 SELECT COUNTRY, Silver_medal, Bronze_medal
414 FROM medal_counts
415 WHERE Gold_medal = 0 AND (Silver_medal > 0 OR Bronze_medal > 0);
416
417
418
419 -- 19.In which Sport/event, India has won highest medals.

```



```
420
421 with T1 as
422     (select nr.region, ae.sport , ae.event,COUNT( ae.Medal)as Medals
423     from athlete_events ae
424     join noc_regions nr
425     on nr.noc=ae.noc
426     where region = 'india' and Medal in ('gold','silver','bronze')
427     group by nr.region,ae.sport,ae.event
428     )
429
430     SELECT sport, event, Medals
431     FROM T1
432     WHERE Medals = (SELECT MAX(Medals) FROM T1);
433
434
435
436
437
438 -- 20.Break down all olympic games where india won medal for Hockey and how many medals in each olympic games.
439 with T1 as
440     (select nr.region, ae.Games ,ae.sport, COUNT( ae.Medal)as Medals
441     from athlete_events ae
442     join noc_regions nr
443     on nr.noc=ae.noc
444     where region = 'india' and Medal in ('gold','silver','bronze')
445     group by nr.region,ae.Games,ae.sport
446     )
447
448     Select * from T1
449     where Sport = 'Hockey'
450     order by medals desc
```