```sql
CREATE TABLE IF NOT EXISTS OLYMPICS_HISTORY
(
    id      INT,
    name    VARCHAR,
    sex     VARCHAR,
    age     VARCHAR,
    height  VARCHAR,
    weight  VARCHAR,
    team    VARCHAR,
    noc     VARCHAR,
    games   VARCHAR,
    year    INT,
    season  VARCHAR,
    city    VARCHAR,
    sport   VARCHAR,
    event   VARCHAR,
    medal   VARCHAR
);


CREATE TABLE IF NOT EXISTS OLYMPICS_HISTORY_NOC_REGIONS
(
    noc     VARCHAR,
    region  VARCHAR,
    notes   VARCHAR
);


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


-- 1. How many olympics games have been held?
select count(distinct(games)) as total_olympics_played
```

```sql
from olympics_history;


-- 2. List down all Olympics games held so far.

select distinct(year), season,city

from olympics_history

order by year;


-- 3. Mention the total no of nations who participated in each olympics game?

select games, count(distinct region) as total_country

from olympics_history oh

join olympics_history_noc_regions ohn on ohn.noc = oh.noc

group by games order by games;


-- 4. Which year saw the highest and lowest no of countries participating in olympics

(select 'highest - '|| games as games,count(distinct region) as total_participant

from olympics_history oh

join olympics_history_noc_regions ohn on ohn.noc = oh.noc

group by games order by total_participant desc

limit 1)

union all

(select 'lowest - '|| games as games,count(distinct region) as total_participant

from olympics_history oh

join olympics_history_noc_regions ohn on ohn.noc = oh.noc

group by games order by total_participant asc

limit 1);


-- 5. Which nation has participated in all of the olympic games

with cte as (select region, count(distinct(games)) as total_olympics_played

from olympics_history oh

join olympics_history_noc_regions onc on onc.noc = oh.noc

group by region
```

```sql
order by total_olympics_played

)

select * from cte

where total_olympics_played = (select max(total_olympics_played) from cte);



-- 5 using window function

WITH OlympicCounts AS (

  SELECT region, COUNT(DISTINCT games) AS total_olympics_played,

      RANK() OVER (ORDER BY COUNT(DISTINCT games) DESC) AS r

  FROM olympics_history oh

  JOIN olympics_history_noc_regions onc ON onc.noc = oh.noc

  GROUP BY region

)



SELECT region, total_olympics_played

FROM OlympicCounts

WHERE r = 1;



-- 6. Identify the sport which was played in all summer olympics.



SELECT sport, COUNT(distinct games) AS no_of_games

FROM (

  SELECT DISTINCT games, sport

  FROM olympics_history

  WHERE season = 'Summer'

) AS t2

GROUP BY sport

HAVING COUNT(distinct games) = (

  SELECT COUNT(DISTINCT games)

  FROM olympics_history

  WHERE season = 'Summer'
```

)

-- 7. Which Sports were just played only in one olympics season.

with cte as (select sport, count(distinct games) as no_of_season_played

from olympics_history

group by sport

order by sport,no_of_season_played

)

select * from cte where no_of_season_played =1;

-- using window function

select sport,no_of_season_played

from(select sport, count(distinct games) no_of_season_played,

rank() over(order by count(distinct games)) as r

from olympics_history

group by sport)

where r = 1

order by sport;

-- 8. Fetch the total no of sports played in each olympic games.

select games,count(distinct sport) as total_games_played

from olympics_history

group by games

order by games;

-- 9. Fetch oldest athletes to win a gold medal

with cte as (select *,case when age = 'NA' then NULL else age end as new_age

from olympics_history where medal = 'Gold'),

cte2 as(select *,dense_rank() over(order by new_age desc) as rnk from cte

)

```sql
select name,age,team,games,event,medal

from cte2 where rnk = 2;


-- 10. Find the Ratio of male and female athletes participated in all olympic games.
SELECT (select concat('1:',(SELECT COUNT(sex)::NUMERIC FROM olympics_history WHERE sex = 'M') /
(SELECT COUNT(sex) FROM olympics_history WHERE sex = 'F')))
;


-- 11. Fetch the top 5 athletes who have won the most gold medals.
with cte as (select name,team,
count(medal),dense_rank() over(order by count(medal) desc) as rnk
from olympics_history
where medal = 'Gold'
group by name,team)
select * from cte where rnk<6;


--12. Fetch the top 5 athletes who have won the most medals (gold/silver/bronze).

with cte as (select name,team,
count(medal),dense_rank() over(order by count(medal) desc) as rnk
from olympics_history
where medal in(select medal from olympics_history where medal not like 'NA')
group by name,team)
select * from cte where rnk<6;


-- 13. Fetch the top 5 most successful countries in olympics. Success is defined by no of medals won.
with cte as (select region,
count(medal),dense_rank() over(order by count(medal) desc) as rnk
from olympics_history oh
JOIN olympics_history_noc_regions onc ON onc.noc = oh.noc
where medal in(select medal from olympics_history where medal not like 'NA')
```

group by region)

select * from cte where rnk<6;

-- 14. List down total gold, silver and bronze medals won by each country.

select region,

count(case when medal = 'Gold' then 1 end) as gold,

count(case when medal = 'Silver' then 1 end) as silver,

count(case when medal = 'Bronze' then 1 end) as bronze

from olympics_history oh

JOIN olympics_history_noc_regions onc ON onc.noc = oh.noc

group by region

order by gold desc,silver desc,bronze desc;

-- 15. List down total gold, silver and bronze medals won by each country corresponding to each olympic games.

with cte as(

select oh.games,onc.region,oh.medal,count(*) as medal_count,

dense_rank() over (partition by games, medal order by count(*) desc) as rank

from olympics_history oh

join olympics_history_noc_regions onc on oh.noc = onc.noc

where oh.medal IN ('Gold', 'Silver', 'Bronze')

group by oh.games, onc.region, oh.medal)

select games,

max(case when medal = 'Gold' and rank = 1 then region || ' ' || cast(medal_count AS varchar) end) as max_gold,

max(case when medal = 'Silver' and rank = 1 then region || ' ' || cast(medal_count AS varchar) end) as max_silver,

max(case when medal = 'Bronze' and rank = 1 then region || ' ' || cast(medal_count AS varchar) end) as max_bronze

from cte

group by games

order by games;

-- 17. Identify which country won the most gold, most silver, most bronze medals and the most medals in each olympic games.

```
with cte as(

select oh.games,onc.region,oh.medal,count(*) as medal_count,

dense_rank() over (partition by games, medal order by count(*) desc) as rank

from olympics_history oh

join olympics_history_noc_regions onc on oh.noc = onc.noc

where oh.medal IN ('Gold', 'Silver', 'Bronze')

group by oh.games, onc.region, oh.medal)

select games,

max(case when medal = 'Gold' and rank = 1 then region || ' ' || cast(medal_count AS varchar) end)
as max_gold,

max(case when medal = 'Silver' and rank = 1 then region || ' ' || cast(medal_count AS varchar) end)
as max_silver,

max(case when medal = 'Bronze' and rank = 1 then region || ' ' || cast(medal_count AS varchar) end)
as max_bronze,

(select region || ' '|| cast(sum(medal_count) as varchar) from cte c where c.games = cte.games
group by games,region

order by games,sum(medal_count) desc

limit 1) as season_max_medal

from cte

group by games

order by games;
```


-- 18. Which countries have never won gold medal but have won silver/bronze medals?

```
with cte as(

select region,

count(case when medal = 'Gold' then 1 end) as gold,

count(case when medal = 'Silver' then 1 end) as silver,

count(case when medal = 'Bronze' then 1 end) as bronze

from olympics_history oh
```

```sql
JOIN olympics_history_noc_regions onc ON onc.noc = oh.noc

group by region

)

select * from cte where gold = 0 and (silver>0 or bronze >0);
```

-- 19. In which Sport/event, India has won highest medals.

```sql
with ind_max_medal_sport as(

select sport,

count(medal) as medal_won,

dense_rank() over(order by count(medal) desc) as rnk

from olympics_history oh

join olympics_history_noc_regions onc ON onc.noc = oh.noc

where team = 'India' and medal<>'NA'

group by sport

)

select sport,medal_won

from ind_max_medal_sport

where rnk = 1;
```

-- 20. Break down all olympic games where India won medal for Hockey and how many medals in each olympic games

```sql
select team,games,count(medal) as hockey_medal

from olympics_history

where sport = 'Hockey' and team = 'India' and medal<>'NA'

group by team,games

order by games;
```