

Deliverable 3

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Except for questions 1, 4, 9, 10, 15, and 17, we changed the other questions due to the alteration in the table structure after normalizing and loading the data. Consequently, we felt the necessity to adjust the questions as well as explore joins (self, inner, left, right), aggregate functions, etc.

1. How many athletes from each country whose names begin with 'A' participated, and how many medals did they win for their country?

```
SELECT c.country_name, COUNT(DISTINCT a.athlete_id) AS num_athletes,
SUM(m.total) AS total_medals
FROM tokyo_olympics.Athletes a
JOIN tokyo_olympics.Countries c ON a.country_id = c.country_id
LEFT JOIN tokyo_olympics.Medals m ON a.country_id = m.country_id
WHERE a.athlete_name LIKE 'A%'
GROUP BY c.country_name;
```

2. Which discipline has the event with the most participating countries and the highest average medal count (excluding gold) per athlete?

```
SELECT d.disc_name AS Discipline_Name, e.event_name AS Event_Name,
COUNT(DISTINCT t.country_id) AS Participating_Countries,
AVG(CASE WHEN m.gold = 0 THEN m.silver + m.bronze ELSE NULL END) AS
Avg_Medal_Count_Per_Athlete
FROM tokyo_olympics.Events e
JOIN tokyo_olympics.Teams t ON e.event_id = t.event_id
JOIN tokyo_olympics.Discipline d ON e.disc_id = d.disc_id
LEFT JOIN tokyo_olympics.Medals m ON t.country_id = m.country_id
GROUP BY d.disc_name, e.event_name
ORDER BY COUNT(DISTINCT t.country_id) DESC,
AVG(CASE WHEN m.gold = 0 THEN m.silver + m.bronze ELSE NULL END) DESC LIMIT 1;
```

3. List all athletes and their respective countries participating in all kinds of Basketball discipline and event type of the "Men".

```
SELECT Distinct a.athlete_name, c.country_name, d.disc_name
FROM tokyo_olympics.Athletes a
```

```
JOIN tokyo_olympics.Countries c ON a.country_id = c.country_id
JOIN tokyo_olympics.Teams t ON a.country_id = t.country_id
JOIN tokyo_olympics.Events e ON t.event_id = e.event_id
JOIN tokyo_olympics.Discipline d ON t.disc_id = d.disc_id
WHERE e.event_name = 'Men' AND d.disc_name like '%Basketball%';
```

4. List countries, along with their total gold medals and corresponding disciplines, sorted by gold medals from highest to lowest.

```
SELECT c.country_name, SUM(m.gold) AS total_gold_medals,
STRING_AGG(d.disc_name, ', ') AS disciplines_with_gold
FROM tokyo_olympics.Medals m
JOIN tokyo_olympics.Countries c ON m.country_id = c.country_id
JOIN tokyo_olympics.Teams t ON m.country_id = t.country_id
JOIN tokyo_olympics.Events e ON t.event_id = e.event_id
JOIN tokyo_olympics.Discipline d ON e.disc_id = d.disc_id WHERE m.gold > 0
GROUP BY c.country_name ORDER BY total_gold_medals DESC;
```

5. List the athletes who participated without assigned coaches, along with their respective disciplines and countries.

```
SELECT a.athlete_name, d.disc_name, c.country_name FROM tokyo_olympics.Athletes
a
JOIN tokyo_olympics.Discipline d ON a.disc_id = d.disc_id
JOIN tokyo_olympics.Countries c ON a.country_id = c.country_id
WHERE NOT EXISTS (
SELECT 1 FROM tokyo_olympics.Coaches WHERE
Coaches.country_id = a.country_id AND Coaches.disc_id = a.disc_id
);
```

6. List Top 10 disciplines with the most participating countries.

```
SELECT d.disc_name, COUNT(DISTINCT c.country_id) AS participating_countries
FROM tokyo_olympics.Entries en
JOIN tokyo_olympics.Discipline d ON en.disc_id = d.disc_id
JOIN tokyo_olympics.Athletes a ON en.disc_id = a.disc_id
JOIN tokyo_olympics.Countries c ON a.country_id = c.country_id
GROUP BY d.disc_name
ORDER BY participating_countries DESC
LIMIT 10;
```

7. What are the names of athletes from Spain who won the gold medal in Artistic Gymnastics along with the events name in the Tokyo 2021 Olympics?

```
SELECT a.athlete_name, e.event_name FROM tokyo_olympics.Athletes a
JOIN tokyo_olympics.Medals m ON a.country_id = m.country_id
JOIN tokyo_olympics.Discipline d ON a.disc_id = d.disc_id
```

```

join tokyo_olympics.events e on d.disc_id = e.disc_id
WHERE
    m.gold > 0
    AND d.disc_name = 'Artistic Gymnastics'
    AND a.country_id = (SELECT country_id FROM tokyo_olympics.Countries
        WHERE country_name = 'Spain');

```

8. How many disciplines did Belgium compete in during the Tokyo 2021 Olympics?

```

select count(distinct d.disc_id) as num_disciplines
from tokyo_olympics.teams
join tokyo_olympics.countries on teams.country_id = countries.country_id
join tokyo_olympics.discipline d on d.disc_id = teams.disc_id
join tokyo_olympics.events on teams.event_id = events.event_id
where country_name = 'Belgium';

```

9. What are the disciplines in Tokyo Olympics with a minimum number of 3 participating countries

```

select d.disc_name, count(distinct a.athlete_id) as athletes_per_country
from tokyo_olympics.discipline d
join tokyo_olympics.events e on d.disc_id = e.disc_id
join tokyo_olympics.teams t on e.event_id = t.event_id
join tokyo_olympics.athletes a on t.country_id = a.country_id and t.disc_id =
a.disc_id
group by d.disc_name
having count(distinct t.country_id) >=3;

```

10. What is the rank achieved by Belgium in the 3x3 Basketball discipline?

```

SELECT    m.rank,      cn.country_name,      e.event_name,      d.disc_name      FROM
tokyo_olympics.Medals m
JOIN tokyo_olympics.Teams t ON m.country_id = t.country_id
JOIN tokyo_olympics.Countries cn ON m.country_id = cn.country_id
JOIN tokyo_olympics.Events e ON t.event_id = e.event_id
JOIN tokyo_olympics.Discipline d ON e.disc_id = d.disc_id
WHERE d.disc_name = '3x3 Basketball' AND t.country_id =
(SELECT country_id FROM tokyo_olympics.Countries WHERE country_name =
'Belgium');

```

11. What are the unique names of coaches and discipline names for teams where total athlete count is greater than 10.

```
select distinct c.coach_name, d.disc_name from tokyo_olympics.coaches c
join tokyo_olympics.countries cn on c.country_id = cn.country_id
join tokyo_olympics.teams t on c.country_id = t.country_id and c.disc_id =
t.disc_id
join tokyo_olympics.entries e on t.disc_id = e.disc_id
join tokyo_olympics.discipline d on d.disc_id = t.disc_id
where e.total_count > 10;
```

12. What is the total number of medals each country won for disciplines with a specific gender participation?

```
select c.country_name, sum(m.total) as total_medals from tokyo_olympics.medals
m
join tokyo_olympics.countries c on c.country_id = m.country_id
join tokyo_olympics.athletes a on c.country_id = a.country_id
join tokyo_olympics.entries e on a.disc_id = e.disc_id
where (e.female_count > 0 and e.male_count > 0)
group by c.country_name
order by total_medals desc;
```

13. What are the names of Coaches who coached the event named Men for the United States of America?

```
select tc.coach_name, c.country_name, e.event_name, coalesce(d.disc_name,
'N/A') as discipline_name
from tokyo_olympics.coaches tc
join tokyo_olympics.countries c on c.country_id = tc.country_id
left outer join tokyo_olympics.discipline d on d.disc_id = tc.disc_id
join tokyo_olympics.events e on e.event_id = tc.event_id
where e.event_name = 'Men' and c.country_name = 'United States of America'
order by tc.coach_name;
```

14. What are the events and disciplines coached by each coach in the Tokyo 2021 Olympics? Let the event name be only events that have "ea" contained in it

```
select co.coach_name, e.event_name, d.disc_name from tokyo_olympics.coaches co
join tokyo_olympics.countries c on co.country_id = c.country_id
left join tokyo_olympics.events e on co.event_id = e.event_id
left join tokyo_olympics.discipline d on co.disc_id = d.disc_id
where event_name like '%ea%';
```

15. What countries have the most gold across all female events in the Tokyo 2021 Olympics?

```
select c.country_name, sum(m.gold) as total_gold_medals_female
from tokyo_olympics.countries c
join tokyo_olympics.medals m on c.country_id = m.country_id
join tokyo_olympics.teams t on m.country_id = t.country_id
join tokyo_olympics.events e on e.event_id = t.event_id
join tokyo_olympics.entries en on e.disc_id = en.disc_id
where
    en.female_count > 0
group by c.country_name
order by total_gold_medals_female desc
limit 5;
```

16. List countries and their respective medal counts in Basketball events

```
select c.country_name, sum(m.gold + m.silver + m.bronze) as totl_medals
from tokyo_olympics.teams
join tokyo_olympics.countries c on c.country_id = teams.country_id
join tokyo_olympics.discipline d on d.disc_id = teams.disc_id
join tokyo_olympics.medals m on teams.country_id = m.country_id
where d.disc_name = 'Basketball'
group by c.country_name
```

17. Who were the coaches for the Egyptian Football team in the Tokyo 2021 Olympics?

```
select distinct c.coach_name, c2.country_name, d.disc_name, e.event_name
from tokyo_olympics.coaches c
join tokyo_olympics.teams t on c.country_id = t.country_id
join tokyo_olympics.countries c2 on c2.country_id = t.country_id
join tokyo_olympics.discipline d on d.disc_id = t.disc_id
join tokyo_olympics.events e on e.event_id = t.event_id
where c2.country_name = 'Egypt' and d.disc_name = 'Football';
```

18. How many events are allocated to each discipline and country, considering only those disciplines where a country has athletes?

```
SELECT d.disc_name, c.country_name, COUNT(DISTINCT e.event_id) AS num_events
FROM tokyo_olympics.Discipline d
JOIN tokyo_olympics.Teams t ON d.disc_id = t.disc_id
JOIN tokyo_olympics.Events e ON t.event_id = e.event_id
JOIN tokyo_olympics.Countries c ON t.country_id = c.country_id
GROUP BY d.disc_name, c.country_name;
```

19. What are the names of coaches who have athletes participating in both Swimming and Rhythmic Gymnastics? Also include the name of the countries.

```
select c.coach_name, co.country_name
from tokyo_olympics.coaches c
join tokyo_olympics.countries co on co.country_id = c.country_id
join tokyo_olympics.athletes a on co.country_id = a.country_id
join tokyo_olympics.discipline d on d.disc_id = a.disc_id
where d.disc_name in ('Swimming', 'Rhythmic Gymnastics')
group by c.coach_name, co.country_name
having count(distinct d.disc_id) = 2;
```

20. Display events together with corresponding discipline, coach and country?

```
select e.event_name, d.disc_name, coalesce(c.coach_name, 'No coach assigned')
as coach_name, cn.country_name
from tokyo_olympics.events e
join tokyo_olympics.discipline d on d.disc_id = e.disc_id
left join tokyo_olympics.coaches c on e.event_id = c.event_id and e.disc_id =
c.disc_id
left outer join tokyo_olympics.countries cn on cn.country_id = c.country_id;
```

View: Athletes and their events Info

```
DROP VIEW AthleteEventInfo;

CREATE OR REPLACE VIEW AthleteEventInfo AS
SELECT a.athlete_id, a.athlete_name, c.country_name AS country, d.disc_name AS
discipline, e.event_name,
co.coach_name
FROM Athletes a
INNER JOIN Countries c ON a.country_id = c.country_id
INNER JOIN Discipline d ON a.disc_id = d.disc_id
LEFT JOIN Teams t ON a.country_id = t.country_id AND a.disc_id = t.disc_id
LEFT JOIN Events e ON t.event_id = e.event_id
LEFT JOIN Coaches co ON t.country_id = co.country_id AND t.disc_id = co.disc_id
AND t.event_id = co.event_id
ORDER BY a.athlete_id;
```