-- 1. Display the names of athletes who won a gold medal in the 2008 Olympics and whose height is greater than the average height of all athletes in the 2008 Olympics.

SELECT name FROM olympic

WHERE Year = 2008 AND

Medal = 'Gold' AND

height > (SELECT AVG(Height) FROM olympic WHERE Year = 2008);

-- 2. Display the names of athletes who won a medal in the sport of basketball in the 2016 Olympics and whose weight is less than the average weight of all athletes who won a medal in the 2016 Olympics.

SELECT name FROM olympic

WHERE Year = 2016 AND

Sport = "Basketball" AND

Weight < (SELECT AVG(Weight) FROM olympic WHERE Year = 2016 AND Medal IS NOT NULL);

-- 3.Display the names of all athletes who have won a medal in the sport of swimming in both the 2008 and 2016 Olympics.

SELECT \* FROM olympic WHERE Sport = 'Swimming' AND Year IN (2008,2016) AND Medal IS NOT NULL;

-- 4 Display the names of all countries that have won more than 50 medals in a single year.

SELECT country, Year, COUNT(\*) FROM olympic

WHERE Medal IS NOT NULL AND country IS NOT NULL

GROUP BY country, Year

HAVING COUNT(\*) > 50

ORDER BY Year, country;

-- 5. Display the names of all athletes who have won medals in more than one sport in the same year.

SELECT DISTINCT name FROM olympic

WHERE ID IN (SELECT DISTINCT ID FROM olympic

WHERE Medal IS NOT NULL

GROUP BY ID, Year, Sport

HAVING COUNT(\*) > 1

ORDER BY COUNT(\*) DESC);

-- 6 What is the average weight difference between male and female athletes in the Olympics who have won a medal in the same event?

-- DON'T RUN THIS. It is taking a lot of time

WITH result AS (

SELECT STAR FROM olympics

WHERE Medal IS NOT NULL

)

SELECT AVG(A.Weight - B.Weight) FROM result A

JOIN result B

ON A.Event = B.Event

AND A.Gender != B.Gender;

-- 7. How many patients have claimed more than the average claim amount for patients who are smokers and have at least one child, and belong to the southeast region?

USE large\_database;

SELECT COUNT(claim) FROM insurance\_data

WHERE claim > (SELECT AVG(claim) FROM insurance\_data WHERE smoker = 'Yes' AND children >= 1 AND region = 'southeast');

-- 8. How many patients have claimed more than the average claim amount for patients who are not smokers and

-- have a BMI greater than the average BMI for patients who have at least one child?

SELECT COUNT(claim) FROM insurance\_data

WHERE claim > (SELECT AVG(claim) FROM insurance\_data

WHERE smoker = "No" AND

bmi > (SELECT AVG(bmi) FROM insurance\_data

WHERE children >= 1));

-- 9. How many patients have claimed more than the average claim amount for patients who have a BMI

-- greater than the average BMI for patients who are diabetic, have at least one child, and are from the southwest region?

SELECT COUNT(\*) FROM insurance\_data

WHERE claim > (SELEct avg(claim) FROM insurance\_data

WHERE bmi > (SELECT AVG(bmi) FROM insurance\_data

WHERE diabetic = 'Yes' AND children >= 1 AND region = 'southwest'));

-- 10. What is the difference in the average claim amount between patients

-- who are smokers and patients who are non-smokers, and have the same BMI

-- and number of children?

SELECT bmi, children, AVG(claim) AS smoker\_avg\_claim, (

SELECT AVG(claim)

FROM insurance\_data AS non\_smoker

WHERE non\_smoker.bmi = smoker.bmi

AND non\_smoker.children = smoker.children

AND non\_smoker.smoker = 'No'

) AS non\_smoker\_avg\_claim, AVG(claim) - (

SELECT AVG(claim)

FROM insurance\_data AS non\_smoker

WHERE non\_smoker.bmi = smoker.bmi

AND non\_smoker.children = smoker.children

AND non\_smoker.smoker = 'No'

) AS claim\_diff

FROM insurance\_data AS smoker

WHERE smoker.smoker = 'Yes'

GROUP BY smoker.bmi, smoker.children

having claim\_diff is not null

ORDER BY bmi, children;