SQL Case Study Questions for Mobile Dataset

Easy Level

1. Retrieve all columns for the first 10 records in the dataset.

2. List all unique brands in the dataset.

3. Find all models released in the year 2020.

4. Count the total number of devices in the dataset.

5. Get the average screen resolution of all devices.

6. Find devices with a battery capacity greater than 4000 mAh.

7. List all devices that support Bluetooth 5.0.

8. Retrieve all devices manufactured by Samsung.

9. Get devices that have a scratch-resistant screen.

10. Display the model and price of devices with a camera resolution higher than 12 MP.

Medium Level

11. Find the top 5 heaviest devices.

12. Count the number of devices per manufacturer.

13. Retrieve the average battery capacity grouped by brand.

14. Find the total number of devices with dual cameras.

15. Identify brands that have released devices in multiple regions.

16. List devices with a refresh rate above 90 Hz.

17. Retrieve all devices with a resolution of 1080x1920 pixels.

18. Find the top 3 brands with the most models in the dataset.

19. Retrieve devices with an "Octa-core" CPU.

20. Find models with RAM greater than 8 GB.

Hard Level

21. Retrieve devices with the highest resolution for each brand.

22. Find the average price of devices per manufacturer where price data is available.

23. List devices that were released but not announced.

24. Find devices with cameras supporting HDR and Panorama modes.

25. Retrieve the total number of devices released per year.

26. List brands with devices supporting fast charging.

27. Identify the lightest device for each brand.

28. List all devices with a 4K video recording capability.

29. Retrieve models with an "f/1.8" or wider aperture.

Advanced Concepts (Joins, Views, CTEs, Indexing)

30. Generate a report showing the number of devices released per brand each year, sorted by year and brand

31. Calculate the correlation between battery capacity and device weight for all devices.

32. Find the top 5 best-selling devices by combining the mobile data with the sales table.

33. Create a view that shows the average battery capacity and screen resolution for each brand.

34. List all devices that have better battery capacity than the average of their brand (use a Common Table Expression).

35. Identify the devices that rank in the top 10 for screen-to-body ratio (use a window function).

36. Retrieve the details of devices along with their corresponding average price per brand (use a JOIN with a subquery).

37. Create an indexed view for the most queried data: Brand, Model, and Released.

38. List all brands that have released at least one device in every year since 2015.

39. Retrieve the heaviest device and its manufacturer for every year.

40. Using a CTE, calculate the yearly increase in average screen size for all devices.

41. Create a temporary table that contains only the models with USB C reversible.

42. Find devices that are lighter than all other devices with similar battery capacity

(use ALL).

43. Compare the sales of two specific brands (e.g., Samsung and Apple) across regions (assume a sales table with brand, region, and units_sold).

44. Find the devices that support fast charging and are in the top 20% of battery capacities (use PERCENT_RANK).

45. Identify the most common screen resolution and list all devices with that resolution.