NutritionalFacts_Fruit_Vegetables_Seafood — Step-by-step

This PDF contains: (1) DDL, (2) full INSERT statements used, (3) each SQL query and its output based on the sample data below.

Step 1 — Table DDL

```
CREATE TABLE food_nutrition (
    food_name VARCHAR2(255),
    calories NUMBER,
    calories_from_fat NUMBER,
    total_fat NUMBER,
    total_fat_percentage NUMBER,
    sodium NUMBER,
    sodium_percentage NUMBER,
    potassium NUMBER,
    potassium_percentage NUMBER,
    total_carbohydrate NUMBER,
    total_carbohydrate_percentage NUMBER,
    dietary_fiber NUMBER,
    dietary_fiber_percentage NUMBER,
    sugars NUMBER,
    protein NUMBER,
    vitamin_a NUMBER,
    vitamin_c NUMBER,
    calcium NUMBER,
    iron NUMBER,
    saturated_fat NUMBER,
    saturated_fat_percentage NUMBER,
    cholesterol NUMBER,
    cholesterol_percentage NUMBER,
    food_type VARCHAR2(100)
);
```

Step 2 — INSERT statements (full data)

```
INSERT INTO food_nutrition (
    food_name, calories, calories_from_fat, total_fat, total_fat_percentage, sodium, sodium_percentag
) VALUES (
    'Apple (1 medium)', 95, 3, 0.3, 0, 2, 0, 195, 4, 25, 8, 4.4, 16, 19, 0.5, 1, 14, 11, 0.2, 0.1, 0,
);

INSERT INTO food_nutrition (
    food_name, calories, calories_from_fat, total_fat, total_fat_percentage, sodium, sodium_percentag
) VALUES (
    'Banana (1 medium)', 105, 4, 0.4, 1, 1, 0, 422, 12, 27, 9, 3.1, 12, 14, 1.3, 2, 17, 6, 0.3, 0.1,
);

INSERT INTO food_nutrition (
    food_name, calories, calories_from_fat, total_fat, total_fat_percentage, sodium, sodium_percentag
) VALUES (
    'Orange (1 medium)', 62, 0, 0.2, 0, 0, 0, 237, 7, 15, 5, 3.1, 12, 12, 1.2, 6, 116, 5, 0.1, 0, 0,
);

INSERT INTO food_nutrition (
    food_name, calories, calories_from_fat, total_fat, total_fat_percentage, sodium, sodium_percentag
) VALUES (
    'Mango (1 cup)', 99, 3, 0.6, 1, 2, 0, 277, 8, 25, 8, 2.6, 10, 23, 1.4, 10, 67, 2, 0.1, 0.1, 0, 0,
);

INSERT INTO food_nutrition (
    food_name, calories, calories_from_fat, total_fat, total_fat_percentage, sodium, sodium_percentag
) VALUES (
    'Strawberries (1 cup)', 49, 4, 0.5, 1, 1, 0, 233, 7, 12, 4, 3, 12, 7, 1, 0, 149, 2, 0.5, 0, 0, 0,
);

INSERT INTO food_nutrition (
```

```
    food_name, calories, calories_from_fat, total_fat, total_fat_percentage, sodium, sodium_percentag
) VALUES (
    'Broccoli (1 cup)', 55, 5, 0.6, 1, 30, 1, 457, 13, 11, 4, 5.1, 20, 2, 4.7, 12, 135, 4, 0.7, 0.1,
);

INSERT INTO food_nutrition (
    food_name, calories, calories_from_fat, total_fat, total_fat_percentage, sodium, sodium_percentag
) VALUES (
    'Carrots (1 cup)', 52, 3, 0.3, 0, 88, 4, 410, 12, 12, 4, 3.6, 14, 6, 1.2, 428, 13, 4, 0.3, 0.1, (
);

INSERT INTO food_nutrition (
    food_name, calories, calories_from_fat, total_fat, total_fat_percentage, sodium, sodium_percentag
) VALUES (
    'Spinach (1 cup)', 23, 1, 0.4, 1, 79, 3, 558, 16, 4, 1, 2.2, 9, 0.4, 2.9, 56, 14, 10, 2.7, 0.1, (
);

INSERT INTO food_nutrition (
    food_name, calories, calories_from_fat, total_fat, total_fat_percentage, sodium, sodium_percentag
) VALUES (
    'Potato (1 medium)', 163, 3, 0.2, 0, 13, 0, 897, 26, 37, 12, 4.7, 18, 2, 4.3, 0, 28, 2, 1.1, 0.1,
);

INSERT INTO food_nutrition (
    food_name, calories, calories_from_fat, total_fat, total_fat_percentage, sodium, sodium_percentag
) VALUES (
    'Tomato (1 medium)', 22, 2, 0.3, 0, 6, 0, 292, 8, 5, 2, 1.5, 6, 3, 1.1, 20, 40, 2, 0.3, 0.1, 0, (
);

INSERT INTO food_nutrition (
    food_name, calories, calories_from_fat, total_fat, total_fat_percentage, sodium, sodium_percentag
) VALUES (
    'Salmon (100g)', 206, 108, 13, 20, 59, 2, 363, 10, 0, 0, 0, 0, 20, 22, 2, 6, 9, 0.5, 3, 15, 71, (
);

INSERT INTO food_nutrition (
    food_name, calories, calories_from_fat, total_fat, total_fat_percentage, sodium, sodium_percentag
) VALUES (
    'Tuna (100g)', 132, 3, 1, 2, 47, 2, 252, 7, 0, 0, 0, 0, 0, 28, 2, 6, 4, 1.3, 0.2, 0, 0, 'Seafood
);

INSERT INTO food_nutrition (
    food_name, calories, calories_from_fat, total_fat, total_fat_percentage, sodium, sodium_percentag
) VALUES (
    'Shrimp (100g)', 99, 13, 1.5, 2, 111, 5, 264, 8, 1, 0, 0, 0, 0, 24, 2, 0, 7, 2, 0.3, 0.5, 18, 6,
);

INSERT INTO food_nutrition (
    food_name, calories, calories_from_fat, total_fat, total_fat_percentage, sodium, sodium_percentag
) VALUES (
    'Cod (100g)', 82, 7, 0.7, 1, 54, 2, 413, 12, 0, 0, 0, 0, 0, 18, 1, 2, 11, 0.3, 0.1, 0, 0, 'Seafoo
);

INSERT INTO food_nutrition (
    food_name, calories, calories_from_fat, total_fat, total_fat_percentage, sodium, sodium_percentag
) VALUES (
    'Lobster (100g)', 89, 9, 1, 2, 320, 13, 230, 7, 0, 0, 0, 0, 0, 19, 3, 0, 7, 0.1, 0.2, 0, 0, 'Seaf
);
```

Step 3 — Queries and Results

1. Highest-calorie food item

```
SELECT food_name, calories FROM food_nutrition WHERE calories = (SELECT MAX(calories) FROM food_nutri
```

Explanation: Finds the food item(s) with the maximum calories value.

```
    food_name  calories
Salmon (100g)       206
```

2. Total number of unique food types

```
SELECT COUNT(DISTINCT food_type) AS unique_food_types FROM food_nutrition;
```

Explanation: Counts distinct food_type values.

```
 unique_food_types
                 1
```

3. Average sodium content per serving

```
SELECT AVG(sodium) AS avg_sodium FROM food_nutrition;
```

```
 avg_sodium
       54.2
```

4. Items with >20% saturated fat percentage

```
SELECT food_name, saturated_fat_percentage FROM food_nutrition WHERE saturated_fat_percentage > 20;
```

```
(no rows)
```

5. Top 10 items by protein content

```
SELECT food_name, protein FROM food_nutrition ORDER BY protein DESC FETCH FIRST 10 ROWS ONLY;
```

```
        food_name  protein
      Tuna (100g)     28.0
    Shrimp (100g)     24.0
    Salmon (100g)     22.0
   Lobster (100g)     19.0
       Cod (100g)     18.0
 Broccoli (1 cup)      4.7
Potato (1 medium)      4.3
  Spinach (1 cup)      2.9
    Mango (1 cup)      1.4
Banana (1 medium)      1.3
```

6. Highest potassium among items with total_carbohydrate > 10g

```
SELECT food_name, potassium, total_carbohydrate FROM food_nutrition WHERE total_carbohydrate > 10 ORD
```

```
           food_name  potassium  total_carbohydrate
   Potato (1 medium)        897                  37
    Broccoli (1 cup)        457                  11
   Banana (1 medium)        422                  27
     Carrots (1 cup)        410                  12
       Mango (1 cup)        277                  25
   Orange (1 medium)        237                  15
Strawberries (1 cup)        233                  12
    Apple (1 medium)        195                  25
```

*7. Total calories and % of calories contributed by sugars (sum(sugars)/sum(calories)*100)*

```
SELECT SUM(calories) AS total_calories, (SUM(sugars) / SUM(calories)) * 100 AS sugar_percentage_of_ca
```

```
 total_calories  sugar_percentage_of_calories
           1333                     8.132033
```

8. Items with >5g dietary fiber (ordered)

```
SELECT food_name, dietary_fiber FROM food_nutrition WHERE dietary_fiber > 5 ORDER BY dietary_fiber DE
```

```
       food_name  dietary_fiber
Broccoli (1 cup)            5.1
```

9. Items where calories from fat > 30% of total calories

```
SELECT food_name, calories_from_fat, calories FROM food_nutrition WHERE (calories_from_fat / calories
```

```
    food_name  calories_from_fat  calories
Salmon (100g)               108       206
```

10. Average percentage of daily recommended Vitamin A

```
SELECT AVG(vitamin_a) AS avg_vitamin_a FROM food_nutrition;
```

```
 avg_vitamin_a
     36.333333
```

11. Highest calcium content among a given food type (example: Fruit)

```
SELECT food_name, calcium FROM food_nutrition WHERE food_type = 'Fruit' ORDER BY calcium DESC FETCH
```

```
(no rows)
```

12. Top 5 food types by average sodium content

```
SELECT food_type, AVG(sodium) AS avg_sodium FROM food_nutrition GROUP BY food_type ORDER BY avg_sodi
```

```
food_type  avg_sodium
  Seafood        85.0
```

13. Total number of food items in each food type

```
SELECT food_type, COUNT(*) AS total_fooditems FROM food_nutrition GROUP BY food_type ORDER BY total_
```

```
food_type  total_fooditems
  Seafood               2
```

14. Item with highest calories-to-protein ratio (protein>0)

```
SELECT food_name, calories, protein, (calories/protein) AS calories_to_protein_ratio FROM food_nutri
```

```
       food_name  calories  protein  calories_to_protein_ratio
Apple (1 medium)        95      0.5                      190.0
```

15. Lowest calories-to-carbs ratio among items with <10g sugar

```
SELECT food_name, calories, total_carbohydrate, sugars, (calories/total_carbohydrate) AS calories_to
```

```
           food_name  calories  total_carbohydrate  sugars  calories_to_carbs_ratio
Strawberries (1 cup)        49                  12     7.0                 4.083333
```