# How to break down a SQL Problem

1. Look at the question and identify all the tables that are involved in the question.
    a. Jot these down in your notes first
    b. Prep the FROM/JOIN clauses after
2. Identify the columns (fields) that you need to either  a) display or b) use to create a display
    a. Start building the SELECT clause
    b. Start building a subquery FROM/SELECT clauses
3. Build the first draft of the query
    a. SAVE!
4. Do you need to limit the results? Prep the WHERE clause!
    a. Equality: field_name = that
    b. Relational: field_two < that, field > that
    c. Ranged: other_field BETWEEN a AND b
    d. Specified: field IN (B, I, P, O, C, L, G, B, T, Q, I, A)
    e. Add (non displayed) fields from your WHERE clause to the SELECT clause to verify your logic
5. Look for the aggregate function terms (sum/min/max/count) and identify what will be coalesced with the GROUP BY clause
    a. Remember the AS for the proper naming conventions
6. Restrict results based on aggregate function with the HAVING clause
7. Identify the paths used to connect the tables
    a. Primary to Foreign key
    b. Multiple PK parts (Composite PK) means compound ON clause ( AND each paths)
    c. These go to the ON clause(s)
8. Update the query
    a. SAVE!
9. Check the results
    a. Does it match the expected results?
    b. What is different?
    c. Ask questions to yourself
10. Add details and update query
    a. Do you need an ORDER BY clause?
    b. Adjust column order
11. Repeat steps as needed!