How to transform an English question to an Access Query

1. Find the "answer" fields, i.e., those fields that will be reported as an answer to the question.

   *For example, in "Which **orders** have customers in Florida?" an answer field is OrderID.*

2. If there is no such field (or fields) then create a "calculated" field using two or more fields from the database.

   *For example, in "What is the **cost** of each order placed by Lee?" the cost field must be created – cost: [Quantity] * [UnitPrice].*

3. 2. Find the "condition" fields, i.e., those fields on which the question imposes some condition. If the conditions on those fields are connected with an AND then put the condition in different columns on the grid (in the criteria area). If they are connected with an OR then put them in different criteria rows.

   *For example, in "Which orders have customers in **Miami Florida**?" there are two conditions, one on the city **and** one on the state. In "Which products were ordered by customers in **Florida** or **Ohio**?" there are two conditions connected with **or**.*

4. 3. All the tables that hold either "answer" or "condition" fields should be used in the query.

5. 4. Check that all the tables being used are **joined** in a proper way. Fields in different tables must be joined to require that they match values. If you want to use two tables but there are no fields in them that can be joined, use intermediate tables.

6. 5. Find out whether the query is a **TOTALS** (count, sum, average, etc.) or **SELECT** query. A TOTALS query should begin with "How many", "How much", "Find the maximum", "What is the total", etc.

   *For example, in "**How many customers** place orders before 6/1/00?" we will need a TOTALS query which **counts** the **customerIDs.***

7. 6. Do you want to execute the aggregate operation (count, sum, avg, etc.) on the whole data or on groups of data? The word "each" in a question indicates that you need to group by the field that follows that word.

   *For example, in "What is the total cost of **each order** placed by Lee?" we have a TOTALS query in which we **group** records **by** ordered.*
   In "How many customers placed orders before 6/1/00?" we have a totals query but don't need to create groups of records. Instead we apply the aggregate operation (count) to the entire group of records.