Branching Logic

Branching logic allows you to hide fields that aren’t applicable. It makes your instruments more streamlined and can lead to more accurate data entry.

For example, if you’re asking in field **favorite_animal**: What is your favorite animal?

1, Elephant | 2, Manatee | 3, Dog | 4, Quokka | 99, Other animal

... then you would only want your follow-up field called **other_animal** ("Please specify other favorite animal") to appear if the respondent selected “99, Other animal” in the initial field. You would use branching logic to keep the [other_animal ] field hidden unless [favorite_animal] = 99.

Notice that in branching logic, REDCap uses the numerical code ("raw value", or 99 in this case), not the text itself.

3 Steps to Branching Logic

1. **Create initial field**
   **favorite_animal**: This is the multiple-choice field that asks What is your favorite animal? 1, Elephant | 2, Manatee | 3, Dog | 4, Quokka | 99, Other animal

2. **Create follow-up field**
   **other_animal**: This is the text box field that asks Please specify other favorite animal.

3. **Link them together with Branching Logic**
   Add Branching Logic to the follow-up field. (This tells REDCap “Keep this field hidden unless the answer to initial field is X.”)

   1. In Online Designer, find the follow-up field & click on branching logic icon (green arrows).

   ![Variable: other_animal]

   2. The Drag-n-Drop Logic Builder is easier than Advanced Syntax. To tell REDCap which condition should trigger the hidden field to appear, choose from the left and drag & drop on the right.
Branching Logic

How do I use branching logic if my initial field is numeric, not multiple-choice?

If your initial field is numeric, you can use mathematical operators in your logic like >, <, =. You could indicate a follow-up field should only show if, for example, \[age\] < 18.

How do I use logic to indicate the follow-up field should only appear if the initial field is/is not blank?

The logic to indicate blankness, or a null value, is two quotation marks: “”. The operator to indicate “does not equal” is <>

- Show this follow-up field only if the initial field is blank:
  \[[\text{initial\_field}] = "\]

- Show this follow-up field only if the initial field is NOT blank:
  \[[\text{initial\_field}] <> "\]

Can I use multiple triggers in my logic?

Yes, and you can still use the Drag-n-Drop Logic Builder. You’ll simply drag and drop as many triggers as you need, and REDCap will connect them with AND or OR.

ALL of the below are true (AND is the connector)

<table>
<thead>
<tr>
<th>Show the field ONLY if...</th>
<th>Show the field ONLY if...</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ ALL below are true</td>
<td>☑ ALL below are true</td>
</tr>
<tr>
<td>☑ ANY below are true</td>
<td>☑ ANY below are true</td>
</tr>
</tbody>
</table>

| favorite\_animal = Elephant (1) | [favorite\_animal] = '1' and [nachos] = '1' |
| nachos = Yes (1)               |                                               |

ANY of the below are true (OR is the connector)

<table>
<thead>
<tr>
<th>Show the field ONLY if...</th>
<th>Show the field ONLY if...</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ ALL below are true</td>
<td>☑ ALL below are true</td>
</tr>
<tr>
<td>☑ ANY below are true</td>
<td>☑ ANY below are true</td>
</tr>
</tbody>
</table>

| favorite\_animal = Elephant (1) | [favorite\_animal] = '1' or [nachos] = '1' |
| nachos = Yes (1)               |                                               |
How do I indicate multiple checkbox responses in my logic?

The syntax for checkboxes is different from multiple choice because checkboxes allow for multiple responses. 1. You can still use the Drag-N-Drop Logic Builder for checkbox fields, which will ensure the syntax is correct. 2. Checkboxes will appear in the logic syntax as $[\text{checkbox\_field(value)}]=1$, to indicate “this choice was checked off”.

![Diagram of checkbox choices and logic conditions]

Example:

Show the field ONLY if...
- ALL below are true
- ANY below are true

- my_checkbox_field = Sneaker (3)
- my_checkbox_field = Frog (6)
- my_checkbox_field = Granola (7)

Show the field ONLY if...

$[\text{my\_checkbox\_field(3)}] = '1' \text{ and } [\text{my\_checkbox\_field(6)}] = '1' \text{ and } [\text{my\_checkbox\_field(7)}] = '1'$