

## Data Filtering Criteria

### Help Contents

<b>Data Filtering Criteria – Synopsis</b> .....	<b>1</b>
<b>Section 1: Filtering Criteria Options</b> .....	<b>2</b>
<b>Section 2: Must be filled in (Not Null)</b> .....	<b>3</b>
<b>Section 3: Must be empty (Null)</b> .....	<b>3</b>
<b>Section 4: Must be selected in the following list</b> .....	<b>4</b>
<b>Section 5: Must NOT be selected in the following list</b> .....	<b>5</b>
<b>Section 6: Must contain this pattern</b> _____ .....	<b>6</b>
<b>Section 7: Must be less than</b> _____ .....	<b>7</b>
<b>Section 8: Must be greater than</b> _____ .....	<b>8</b>
<b>Section 9: Must be between</b> _____ <b>and</b> _____ .....	<b>9</b>

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[Creating a Query](#)  
[CQB Functionality](#)

### Data Filtering Criteria – Synopsis

Data filtering allows a user to filter the results of a query based on the filtered data field and the criteria placed upon the data in that field. This document discusses which filtering criteria are available in the query tool, and how a user would use the different criteria to produce their desired data.

## Section 1: Filtering Criteria Options

This section presents the filtering criteria options that are available within the Custom Query Tool. Each filter criteria option is discussed in detail in later sections of this document (*see table of contents*).

Figure 1 shows the criteria options as they appear on the “Filter Data Fields” screen within the query tool.

1. It is important to note that there will be a full list of filter criteria options for each data field selected as a filter field. In Figure 1 “Survey Year” and “Program Comments” are shown as filter fields with their corresponding filter criteria options.
2. Certain filter criteria may be unavailable and therefore grayed out depending on the type of data contained in a data field.

**Figure 1**

The screenshot displays a table with two rows. The first row is for 'Survey Year' and the second row is for 'Program Comment'. Each row has a list of filter criteria on the left and a list of values on the right. The 'Program Comment' row is highlighted in yellow, and its filter criteria are grayed out. A yellow arrow labeled '1' points to the 'Survey Year' row, and another yellow arrow labeled '2' points to the 'Program Comment' row.

Field Name	Filter Criteria	Values
Survey Year	<input type="radio"/> Must be filled in (NOT NULL). <input type="radio"/> Must be empty (NULL). <input type="radio"/> Must be selected in the following list: <input type="radio"/> Must NOT be selected in the following list: <input type="radio"/> Must contain this pattern: _____ <input type="radio"/> Must be less than: _____ <input type="radio"/> Must be greater than: _____ <input type="radio"/> Must be between _____ and _____	(Select All) (Deselect All) 2003 2004 2005
Program Comment	<input type="radio"/> Must be filled in (NOT NULL). <input type="radio"/> Must be empty (NULL). <input type="radio"/> Must be selected in the following list: <input type="radio"/> Must NOT be selected in the following list: <input type="radio"/> Must contain this pattern: _____ <input type="radio"/> Must be less than: _____ <input type="radio"/> Must be greater than: _____ <input type="radio"/> Must be between _____ and _____	(Select All) (Deselect All) Data cannot be provided for Data cannot be provided for For question #10 __ please For question # 11 please n Loan assumption program^ Assists low-income studen Cal Grant T funding is avail Must teach in CA after ear

### Attention!



Due to incompatible data, notice the grayed out filter criteria options for the “Program Comment” filter field.

### • List of Filter Criteria

- Must be filled in (Not Null)
- Must be empty (Null)
- Must be selected in the following list
- Must NOT be selected in the following list
- Must contain this pattern \_\_\_\_\_
- Must be less than \_\_\_\_\_
- Must be greater than \_\_\_\_\_
- Must be between \_\_\_\_\_ and \_\_\_\_\_

## Section 2: *Must be filled in (Not Null)*

This section focuses on the “Must be filled in (Not Null)” filter criteria option. When this option is selected as filter criteria for a data field, only records that contain data in this data field will be included in the query results.

Figure 2 shows the “Must be filled in (Not Null)” filter criteria option.

1. The “Must be filled in (Not Null)” filter criteria option

**Figure 2**

The screenshot shows a window titled 'Field Name' with a list of filter criteria. A yellow arrow points from a blue circle containing the number '1' to the first option, 'Must be filled in (NOT NULL)'. The field name 'Administers LEAP And Or SLEAP' is visible in the background. To the right, there are buttons for '(Select All)' and '(Deselect All)', and a 'CHECKED' status indicator.

Field Name	Filter Criteria	Buttons
Administers LEAP And Or SLEAP	<input checked="" type="radio"/> Must be filled in (NOT NULL).	(Select All) (Deselect All) CHECKED
	<input type="radio"/> Must be empty (NULL).	
	<input type="radio"/> Must be selected in the following list:	
	<input type="radio"/> Must NOT be selected in the following list:	
	<input type="radio"/> Must contain this pattern: <input type="text"/>	
	<input type="radio"/> Must be less than: <input type="text"/>	

## Section 3: *Must be empty (Null)*

This section discusses the “Must be empty (Null)” filter criteria option. When this option is selected as filter criteria for a data field, only records that do not contain data in this data field will be included in the query results.

Figure 3 shows the “Must be empty (Null)” filter criteria option.

1. The “Must be empty (Null)” filter criteria option

**Figure 3**

The screenshot shows a window titled 'Field Name' with a list of filter criteria. A yellow arrow points from a blue circle containing the number '1' to the second option, 'Must be empty (NULL)'. The field name 'Administers Christa McAuliffe Scholarships' is visible in the background. To the right, there are buttons for '(Select All)' and '(Deselect All)', and a 'CHECKED' status indicator.

Field Name	Filter Criteria	Buttons
Administers Christa McAuliffe Scholarships	<input type="radio"/> Must be filled in (NOT NULL).	(Select All) (Deselect All) CHECKED
	<input checked="" type="radio"/> Must be empty (NULL).	
	<input type="radio"/> Must be selected in the following list:	
	<input type="radio"/> Must NOT be selected in the following list:	
	<input type="radio"/> Must contain this pattern: <input type="text"/>	
	<input type="radio"/> Must be less than: <input type="text"/>	

## Section 4: *Must be selected in the following list*

This section is about the “Must be selected in the following list” filter criteria option. When a user selects this filter criteria option the query will return only data records that contain the user’s data selections from the multi-select box associated with this criteria option.

Figure 4 shows the “Must be selected in the following list” filter criteria option, and the multi-select box associated with this option.

1. The “Must be selected in the following list” filter criteria option
2. The multi-select box associated with the “Must be selected in the following list” filter criteria option. This is a distinct list of data that is found within a data field. This list appears grayed out until the “Must be selected in the following list” option is selected. Click on items in this list to make selections, selected items will appear highlighted.
3. Notice the “Select All” and “Deselect All” links. These allow a user to quickly select or unselect all data elements within the multi-select box.

**Figure 4**

The screenshot shows a web-based query builder interface. At the top, there are navigation buttons for '< Back' and 'Next >'. Below this is a section titled 'Field Name' with a dropdown menu currently showing 'State Name'. To the right of the field name are several filter criteria options, each with a radio button. The third option, 'Must be selected in the following list:', is selected. Below this option is a multi-select box containing a list of state names: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, and Delaware. Above the list are two links: '(Select All)' and '(Deselect All)'. A scroll bar is visible on the right side of the list. Three yellow arrows with blue circular callouts point to specific elements: arrow 1 points to the selected radio button for 'Must be selected in the following list:'; arrow 2 points to the multi-select box; and arrow 3 points to the '(Select All)' and '(Deselect All)' links. To the right of the screenshot is a 'Tip!' icon (a red starburst) with the text: 'Make multiple selections from this list by holding down the “Ctrl” key while clicking on the desired data elements within the list.'



**Attention!** The list may be larger than the multi-select box, use the scroll bar that appears on the right of the multi-select box to view the entire list.

## Section 5: *Must NOT be selected in the following list*

This section covers the “Must NOT be selected in the following list” filter criteria option. When a user selects this filter criteria option the query will return only data records that do not contain the user’s data selections from the multi-select box associated with this criteria option.

Figure 5 shows the “Must NOT be selected in the following list” filter criteria option, and the multi-select box associated with this option.

1. The “Must NOT be selected in the following list” filter criteria option
2. The multi-select box associated with the “Must Not be selected in the following list” filter criteria option. This is a distinct list of data that is found within a data field. This list appears grayed out until the “Must NOT be selected in the following list” option is selected. Click on items in this list to make selections, selected items will appear highlighted.
3. Notice the “Select All” and “Deselect All” links. These allow a user to quickly select or unselect all data elements within the multi-select box.

**Figure 5**

The screenshot shows a web-based query builder interface. At the top, there are navigation buttons for '< Back' and 'Next >'. Below this is a section titled 'Field Name' with a dropdown menu. Underneath, there are several filter criteria options for the 'State Name' field, each with a radio button. The option 'Must NOT be selected in the following list:' is selected. To the right of this option is a multi-select box containing a list of states: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, and Delaware. The 'Arizona' entry is highlighted. Above the list are links for '(Select All)' and '(Deselect All)'. Three yellow arrows with blue circular numbers point to specific elements: arrow 1 points to the selected radio button, arrow 2 points to the multi-select box, and arrow 3 points to the '(Select All)' and '(Deselect All)' links. A 'Tip!' icon with a red starburst is located to the right of the multi-select box, with text that reads: 'Make multiple selections from this list by holding down the “Ctrl” key while clicking on the desired data elements within the list.'

**Attention!**  The list may be larger than the multi-select box, use the scroll bar that appears on the right of the multi-select box to view the entire list.

# Custom Query Builder Help

## Section 6: Must contain this pattern \_\_\_\_\_

This section discusses the “Must contain this pattern \_\_\_\_\_” filter criteria option. This option allows a user to specify a pattern of characters that the data in a data field will be filtered by. The query results would contain only records that have data matching the specified pattern in the data field.

Figure 6 displays the “Must contain this pattern \_\_\_\_\_” filter criteria option.

1. The “Must contain this pattern \_\_\_\_\_” option
2. The “Pattern” textbox with an example of a pattern.

**Figure 6**

The screenshot shows a dialog box with a title bar containing '< Back' and 'Next >' buttons. Below the title bar is a section labeled 'Field Name' with a dropdown menu showing 'State Name'. To the right of this section are several radio button options for filter criteria. The option 'Must contain this pattern:' is selected, and the text 'Ma' is entered in the adjacent input field. To the right of these options is a list box containing the following states: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, and Delaware. At the top of the list box are the buttons '(Select All)' and '(Deselect All)'. Two yellow arrows with blue circular heads labeled '1' and '2' point to the selected radio button and the pattern input field, respectively.

### Attention!



In Figure 6, “Ma” is shown as the pattern entered in the “Pattern” textbox ( 2 ). This means that the filter field, “State Name” in this example, would be filtered by the pattern “Ma”. All records containing state names with the pattern “ma” will be return in the query results. See Figure 7 for an example of the query results. Notice that the pattern is not case sensitive.

**Figure 7**

State Name
Alabama
Alabama
Alabama
Massachusetts
Maine
Maine
Maryland
Maryland
Massachusetts
Massachusetts
Oklahoma
Oklahoma
Oklahoma



\* <or> % - The asterisk or percent symbol can be used as a multi-character wildcard allowing any number of characters to be represented in its place.

\_ - The underscore character is a single-character wildcard allowing any one character to be represented in its place.

# Custom Query Builder Help

## Section 7: *Must be less than* \_\_\_\_\_

This section provides information related to the “Must be less than \_\_\_\_\_” filter criteria option. This option allows a user to filter a data field so that all records returned by the query would have values less than or equal to the value that the user entered in the “Must be less than:” textbox in the filtered data field.

Figure 8 shows the “Must be less than \_\_\_\_\_” filter criteria option.

1. The “Must be less than \_\_\_\_\_” filter criteria option
2. The “Must be less than:” textbox.



Symbols such as “%”, “#”, and “\$” may cause an error when submitted in the “Must be less than” text box.

**Figure 8**

The screenshot shows a window with a title bar containing "< Back" and "Next >". Below the title bar is a header "Field Name". The main area contains several filter criteria options for the field "Total Dollars Disbursed":

- Must be filled in (NOT NULL).
- Must be empty (NULL).
- Must be selected in the following list:
- Must NOT be selected in the following list:
- Must contain this pattern: [ ]
- Must be less than: [2050]
- Must be greater than: [ ]
- Must be between [ ] and [ ]

On the right side, there are buttons "(Select All)" and "(Deselect All)", and a list box containing the values: 0, 10, 500, 675, 1000, 2000, 2050, 2800. Two yellow arrows with blue circles containing the numbers 1 and 2 point to the selected radio button and the "2050" text box, respectively.

### Attention!



This filter criteria works with numbers and text.

- When the data field contains numbers this option works as expected, for example  $2 \leq 3$ ,  $500 \leq 500$ , and  $2003 \leq 2004$ .
- When the data field contains text values, “a”  $\leq$  “b”  $\leq$  “c”, “Arkansas”  $\leq$  “Connecticut”, “Conn”  $\leq$  “Connecticut”, and Alabama  $\leq$  Alabama.
- Text is not case sensitive, “A” = “a”, and “Arkansas” = “arkansas”.



Due to database limitations some data fields that appear to contain number values actually contain the text representations of the numbers. In cases such as this the “Must be less than \_\_\_\_\_” filter criteria option may not work as expected since the text representations of numbers do not correspond to their numerical values. For example, in their text representations “10”  $\leq$  “2”

# Custom Query Builder Help

## Section 8: *Must be greater than \_\_\_\_\_*

This section focuses on the “Must be greater than \_\_\_\_\_” filter criteria option. This option allows a user to filter a data field so that all records returned by the query would have values greater than or equal to the value that the user entered in the “Must be greater than:” textbox in the filtered data field.

Figure 9 shows the “Must be greater than \_\_\_\_\_” filter criteria option.

1. The “Must be greater than \_\_\_\_\_” filter criteria option
2. The “Must be greater than:” textbox.



Symbols such as “%”, “#”, and “\$” may cause an error when submitted in the “Must be greater than” text box.

**Figure 9**

The screenshot shows a window with a title bar containing "< Back" and "Next >". Below the title bar is a section titled "Field Name" with a dropdown menu set to "State Name". To the right of the dropdown are two buttons: "(Select All)" and "(Deselect All)". Below these are several filter criteria options, each with a radio button. The option "Must be greater than:" is selected and highlighted with a yellow arrow labeled "1". The text box next to it contains "conn" and is highlighted with a yellow arrow labeled "2". Other options include "Must be filled in (NOT NULL)", "Must be empty (NULL)", "Must be selected in the following list:", "Must NOT be selected in the following list:", "Must contain this pattern:", "Must be less than:", and "Must be between". To the right of the filter options is a list box containing the following states: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, and Delaware.

### Attention!



This filter criteria works with numbers and text.

- When the data field contains numbers this option works as expected, for example  $5 \geq 4$ ,  $1000 \geq 1000$ , and  $2004 \geq 2003$ .
- When the data field contains text values, “c”  $\geq$  “b”  $\geq$  “a”, “Connecticut”  $\geq$  “Arkansas”, and Alabama  $\geq$  Alabama.
- Text is not case sensitive, “A” = “a”, and “Arkansas” = “arkansas”.



Due to database limitations some data fields that appear to contain number values actually contain the text representations of the numbers. In cases such as this the “Must be greater than \_\_\_\_\_” filter criteria option may not work as expected since the text representations of numbers do not correspond to their numerical values. For example, in their text representations “2”  $\geq$  “10”.

# Custom Query Builder Help

## Section 9: Must be between \_\_\_\_\_ and \_\_\_\_\_

This section discusses the “Must be between \_\_\_\_\_ and \_\_\_\_\_” filter criteria option. This option allows a user to filter a data field so that all records returned by the query will have values in the specified data field equal to and between the two values supplied by the user.

Figure 10 shows the “Must be between \_\_\_\_\_ and \_\_\_\_\_” filter criteria option.

1. The “Must be between \_\_\_\_\_ and \_\_\_\_\_” filter criteria options.
2. The “Must be between – low value” textbox.
3. The “Must be between – high value” textbox.



Symbols such as “%”, “#”, and “\$” may cause an error when submitted in the “Must be between \_\_\_ and \_\_\_” text boxes.



Make sure that you place your low value in the low value textbox (2) and your high value in the high value textbox (3) for the query to work correctly. Otherwise the query may return no results.

**Figure 10**

< Back | Next >

Field Name

Survey Year

Must be filled in (NOT NULL).

Must be empty (NULL).

Must be selected in the following list:

Must NOT be selected in the following list:

Must contain this pattern: \_\_\_\_\_

Must be less than: \_\_\_\_\_

Must be greater than: \_\_\_\_\_

Must be between 2003 and 2005

(Select All) (Deselect All)

2003  
2004  
2005

### Attention!



This filter criteria option works with numbers and text.

- When the data field contains numbers this option works as expected, for example  $2 \leq 3 \leq 4$ ,  $500 \leq 500 \leq 550$ , and  $2003 \leq 2004 \leq 2005$ .
- When the data field contains text values, “a”  $\leq$  “b”  $\leq$  “c”, “Arkansas”  $\leq$  “Connecticut”  $\leq$  “Texas”, “Arkansas”  $\leq$  “Conn”  $\leq$  “Connecticut”, and “Alabama”  $\leq$  “Alabama”  $\leq$  “Wyoming”.
- Text is not case sensitive, “A” = “a”, and “Arkansas” = “arkansas”.



Due to database limitations some data fields that appear to contain number values actually contain the text representations of the numbers. In cases such as this the “Must be between \_\_\_\_\_ and \_\_\_\_\_” filter criteria option may not work as expected since the text representations of numbers do not correspond to their numerical values.