

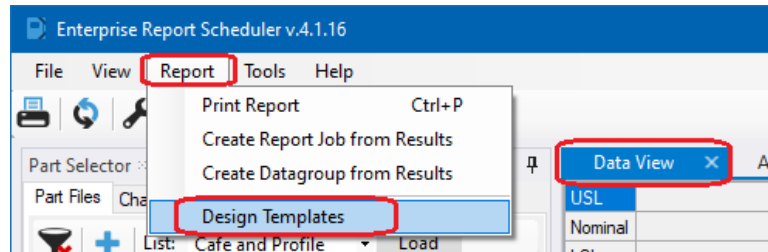
# Reporting – Change Sigma columns to Cp L and U

The Stat Summary report that comes with ERS only displays columns for some statistical values, but there are other values available to be displayed. This White Paper will give step by step instructions for designing your own custom template and changing the “Sigma” and “Sigma R” columns to show the “Cp Lower” and “Cp Upper” values instead.

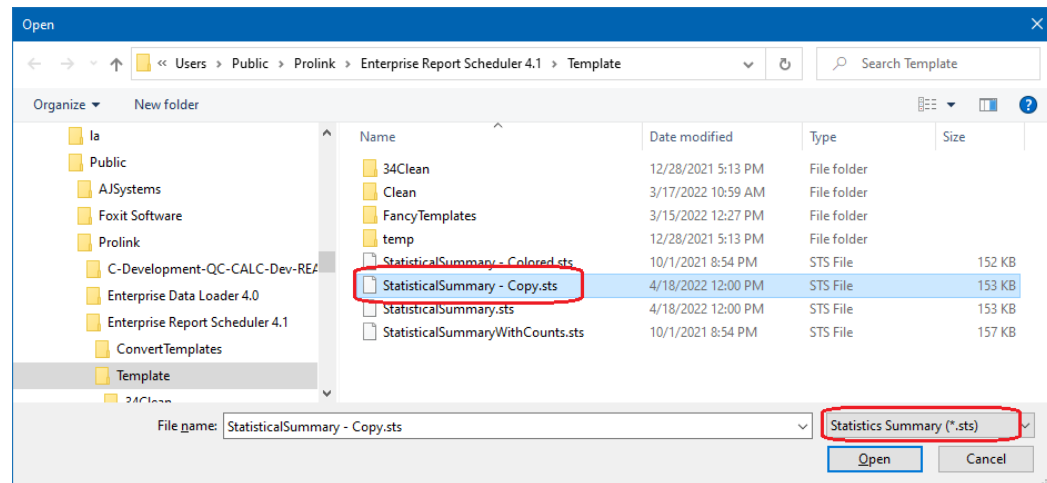
## The Report Designer

The directions shown here will change the “Sigma” and “Sigma R” columns to show “Cp Upper” and “Cp Lower” instead. This is a lengthy process, but relatively simple to accomplish.

1. While using the **Data View** or **Analysis** tabs in ERS, choose the **Report > Design Templates** menu.

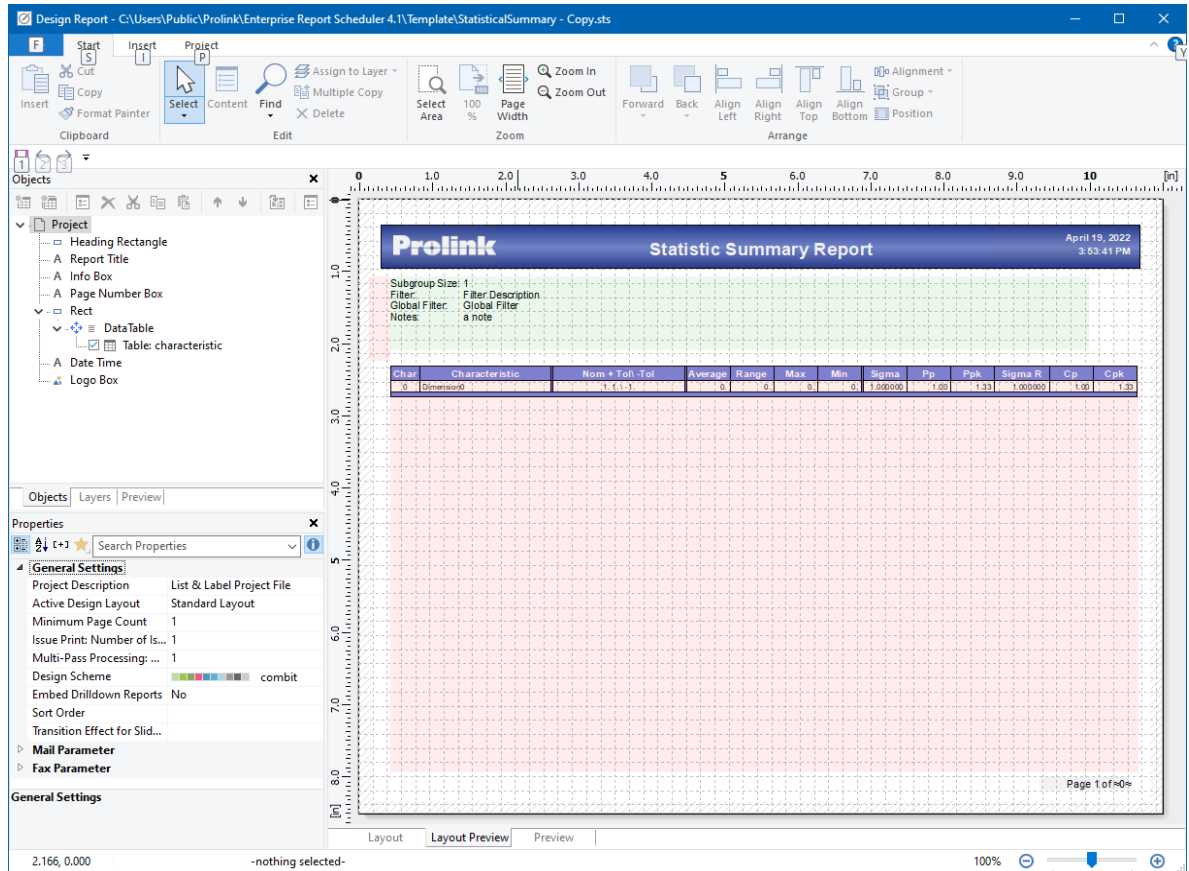


2. In the **Open** window that appears, choose “Statistics Summary (\*.sts)” in the list in the lower right corner of the screen, then right click on the “StatisticalSummary.sts”, choose **Copy**, right click in empty space in the file area, and choose **Paste**.



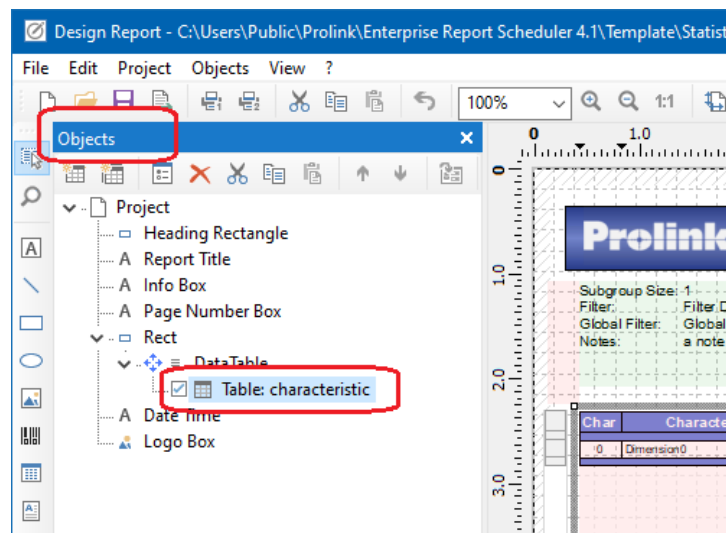
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3. The previous step will create a “StatisticalSummary - Copy.sts” file. Choose that file, then click the **Open** button at the bottom of the window and the Report Designer window will open.



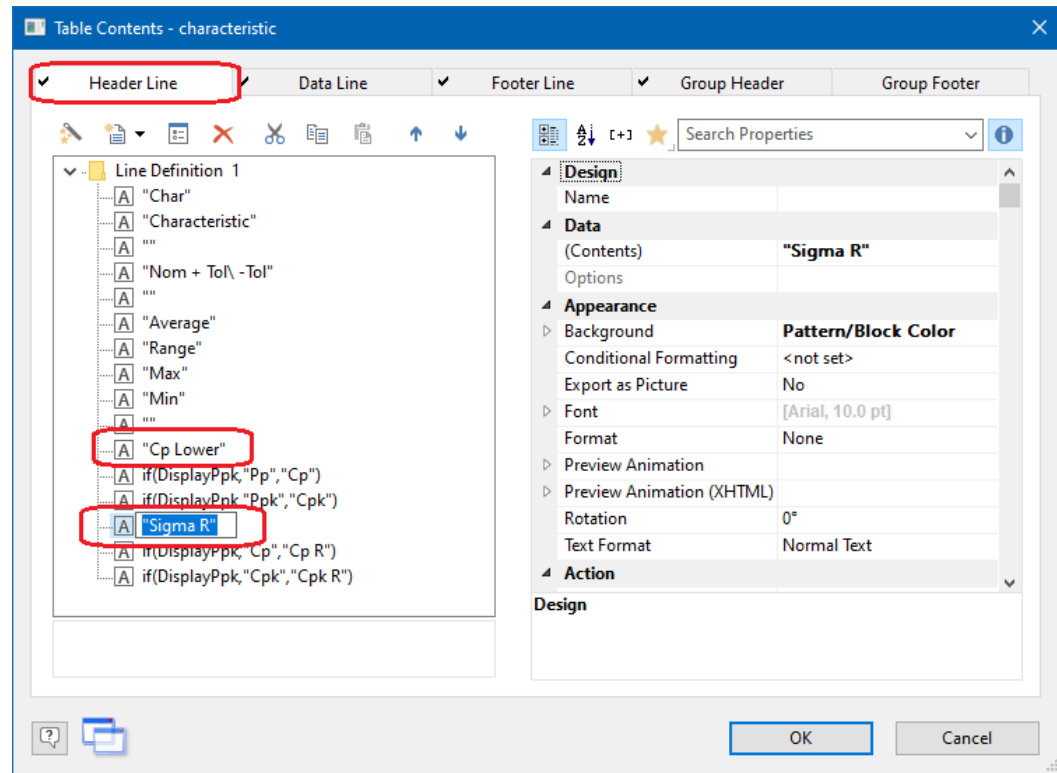
### Header Lines

1. Use the **Objects** area in the upper left to find the “Table: characteristic” line, then double click that item and the **Table Contents** window will appear.



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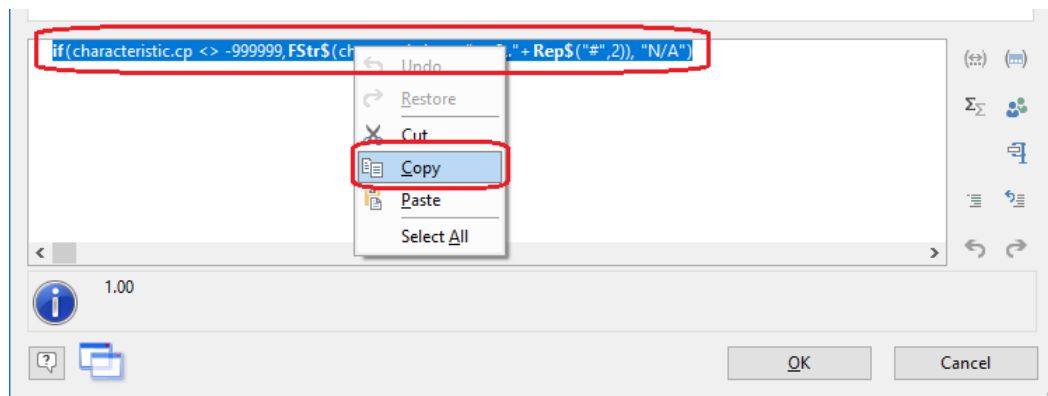
2. On the **Header Line** tab in the **Table Contents** window, right click on the “Sigma” line on the left, choose **Rename Column** to edit that value, and enter “Cp Lower” as the new column heading value. Repeat this process for the “Sigma R” item and enter “Cp Upper” as the new value.



### Data Lines

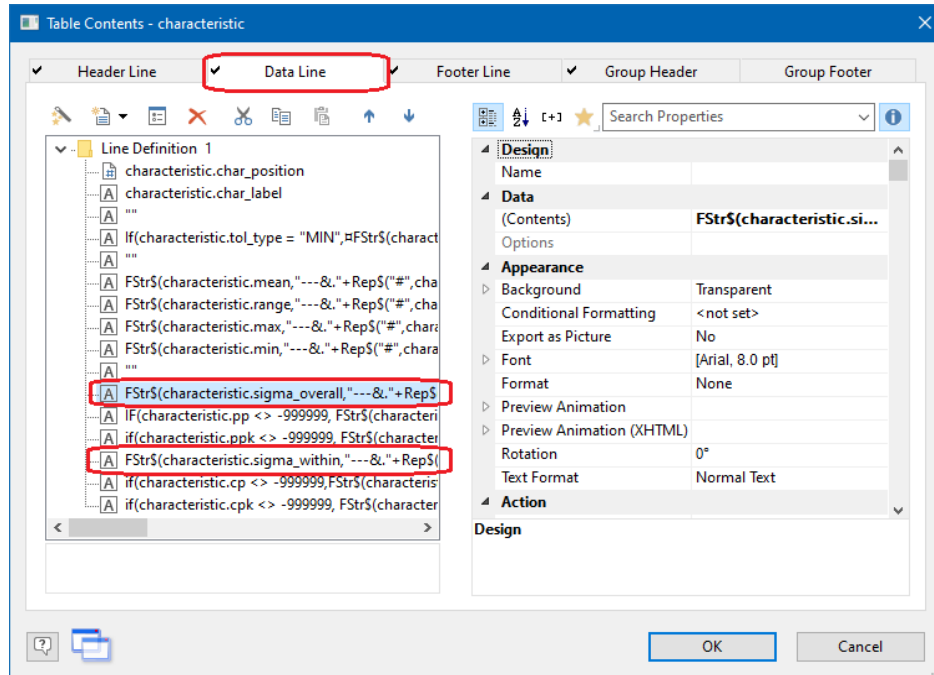
Now that you've fixed the column headings, The next step is to change the values that will appear in the columns below those headings by using the **Data Line** tab on the **Table Contents** window.

1. Before doing any actual changing, you need to copy an existing line because it is very close to the format of the formulas that need to be created. The easiest way to accomplish this is to copy the “if(characteristic.cp <> ...” line directly below the “sigma\_within” line in the **Table Contents** screen.
2. Locate and double-click the “if(characteristic.cp <> ...” line, then highlight and copy (CTRL + C) the line that shows in the bottom box in the **Edit Table** window. For the moment, bring up Notepad and paste (CTRL + V) the formula into an empty file.

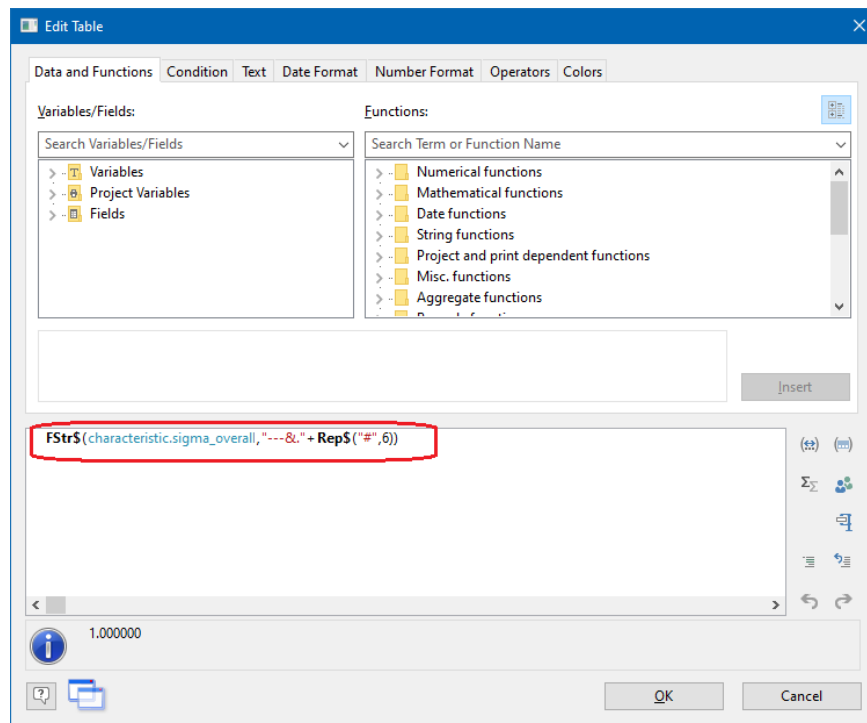


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3. Back in the **Table Contents** window, On the **Data Line** tab, double-click the line that starts with “FStr\$(characteristic.sigma\_overall” and the **Edit Table** screen appears.



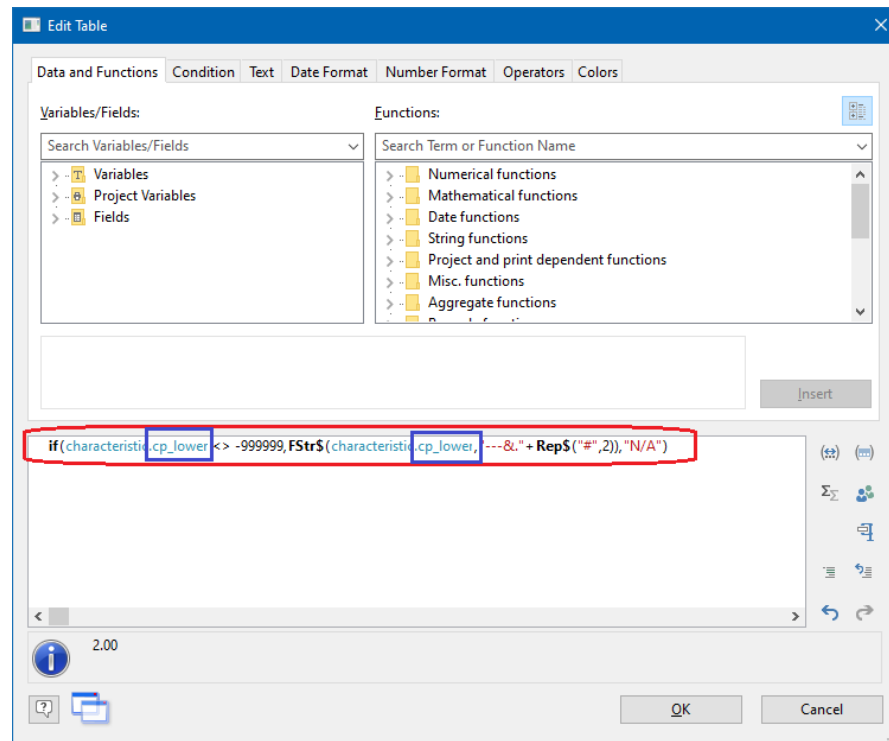
4. In the **Edit Table** screen the line showing at the bottom of the screen needs to be changed to show the Cp Lower values. The line copied in step 1 was the formula for the Cp values, so the field name being used within the copied formula just needs to be adjusted slightly. Delete the line circled in the picture below, then paste in the line from step 1.



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- The formula needs to be changed so that “characteristic.cp” becomes “characteristic.cp\_lower”. The new field names are shown in blue in the line and picture below.

```
if(characteristic.cp_lower <> -999999,FStr$(characteristic.cp_lower,"---."+Rep$("#",2)), "N/A")
```



- Click **OK** on the **Edit Table** window to accept the changes you made.
- Now that “Sigma” has been changed to “Cp Lower”, the same operation needs to be done to change the “Sigma R” column to “Cp Upper”.
- Repeat steps 3 through 6 with the following changes:
  - In Step 3, double-click the “FStr\$(characteristic.sigma\_within” line.
  - In Step 4 we’re going to be adjusting this to be the Cp Upper values.
  - In Step 5, the “characteristic.cp” becomes “characteristic.cp\_upper” as shown in the formula below.

```
if(characteristic.cp_upper <> -999999,FStr$(characteristic.cp_upper,"---."+Rep$("#",2)), "N/A")
```

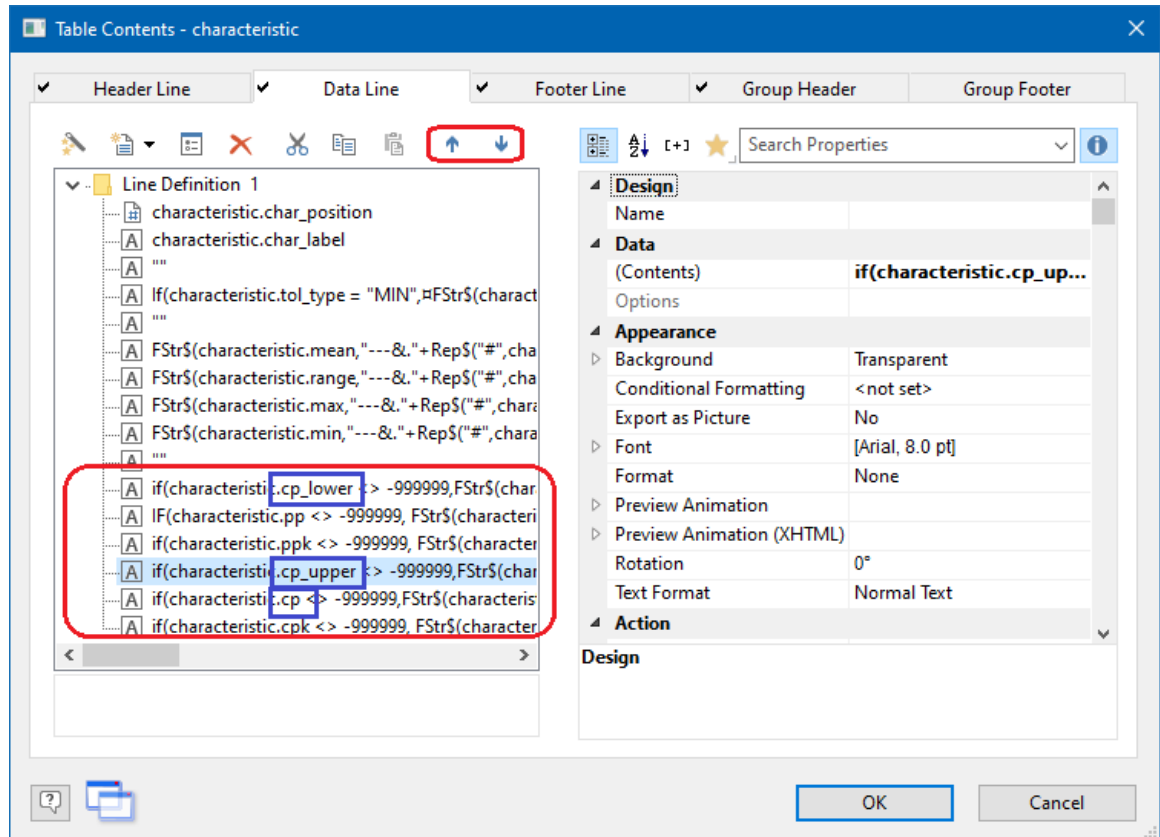
- Click the **OK** button on the **Edit Table** screen.

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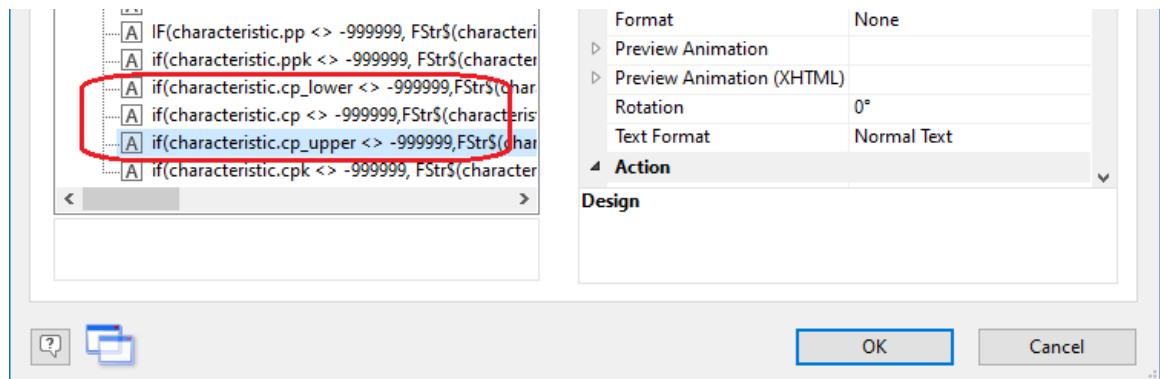
## Reordering the Columns

At this point the process is almost finished, but the order of the columns is a little off. This section will fix that so the column order makes sense again.

1. As you can see in the picture of the **Table Contents** screen below, currently the Cp Lower is not located near the Cp Upper and Cp columns (rows in the window). We are going to reorder the items in this screen so that the order is Cp Lower, Cp, and Cp Upper instead.

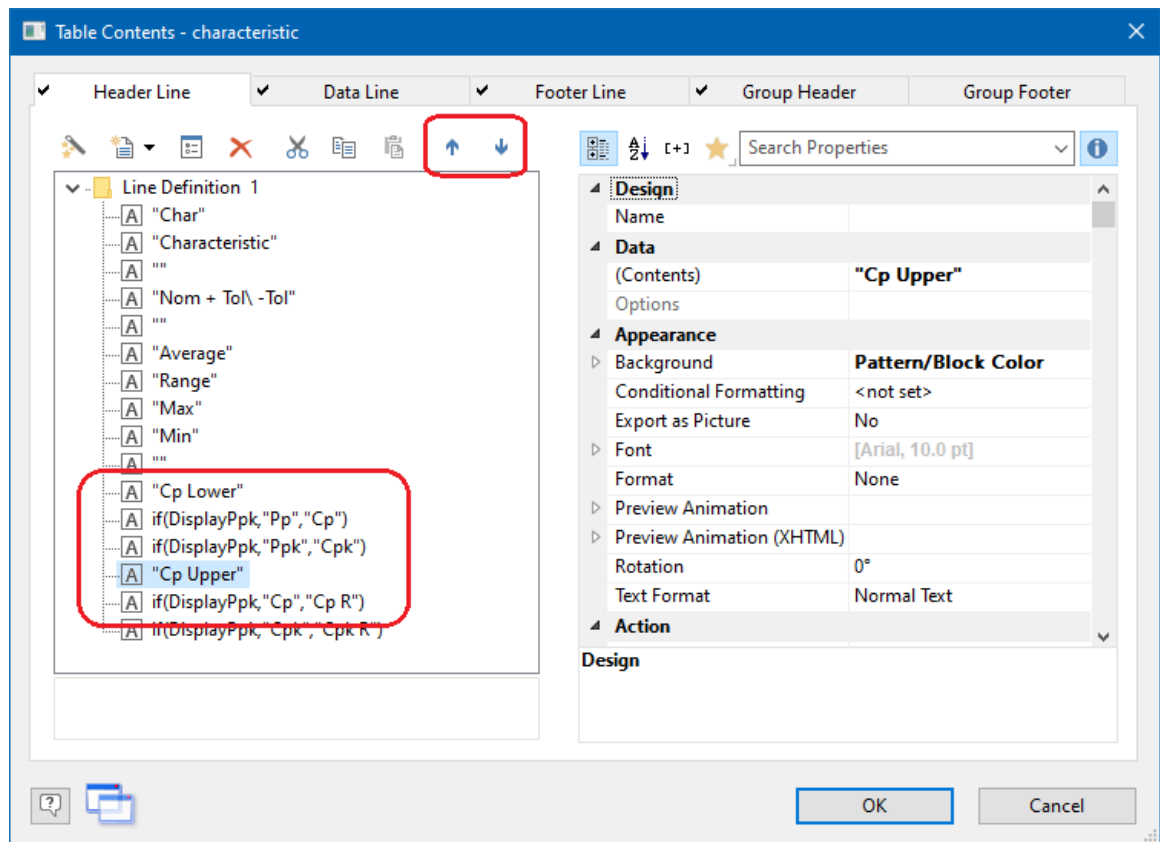


- Click on the `cp_lower` line, then use the down arrow button (circled at the top of the picture above) until that line appears directly above the `cp_upper` line.
- Click on the `cp_upper` line and use the down arrow button until it appears immediately after the `cp` line. This is what it should look like when you are done:

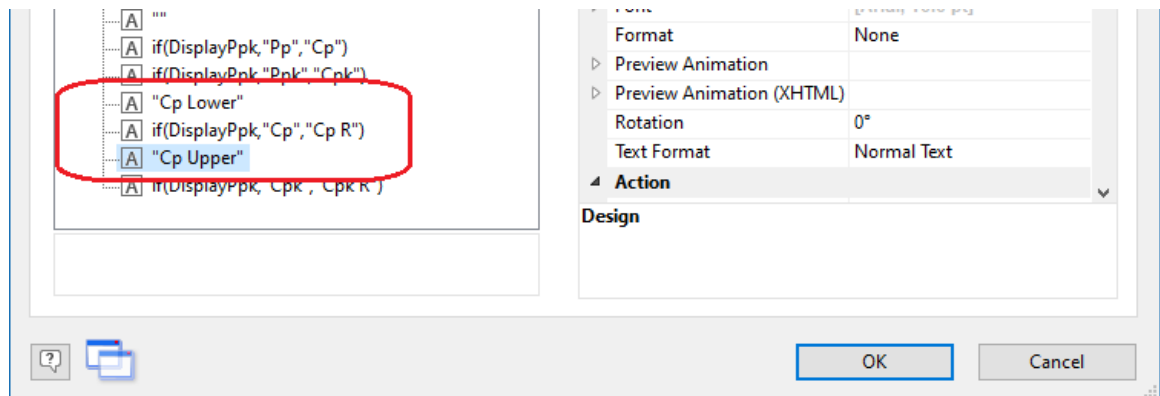


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- Now that the data columns are in the correct order, we need to do the same process for the headers.



- Change to the **Header Line** tab, click on the "Cp Lower" line and use the down arrow to move it just above the "Cp Upper" line.
- Click on the "Cp Upper" line and move it just below the line directly below it (ends with "Cp R"). This is how it should look when you are done:



- Click **OK** to on the **Table Contents** window, then use the **File > Save** menu to save your changes.
- When you run your report, you will now have the "Cp Lower" and "Cp Upper" columns appearing.