**FILTERING**

- Filters rows in or out of the input table according to a filtering rule.
- The filtering rule can match values in a selected column or numbers in a numerical range.
- Plots columns in a reference column (x-axis); Data points are colored or defined with lines. If the reference column on the top table contains text, the fine line graphically represents the association of text values.
- A filtering rule can be created by clicking on the reference column in the formula view.
- The filtering rule can be defined by a category column.
- Filters columns in or out of the input table. Column to be filtered can be manually selected, selected according to their data type, or based on a wildcard or negated expression matching their name.
- Sorts the input table according to a defined sorting criteria and keeps only rows that match the order specified. The output table will be identical to the input table except for the single updated cell.
- Drops the input table based on the chosen row and column range. The row range is defined by the row number, the column range either via column name or number.

**VALUE CREATION**

- Implements a number of mathematical operations across multiple input columns. The mathematical operations can be applied to multiple columns with the Math Formula (Multi Column) node.
- Renames selected columns according to the column name defined in the dialog. Column names must remain unique! Replace values in a selected string column if they match a defined pattern.
- Updates a single cell of the output table with the value of the specified flow variable. The cell to be updated must be specified via the row number and column name. The output table will be identical to the input table except for the single updated cell.
- Updates cells in the top input table with matching cells from the bottom update table. A matching cell must have the same column name and flowID in both tables. Multiple values of multiple rows and columns can be updated. Additional rows and columns from the update table can be appended to the input table.

**FLOW VARIABLES**

- Flow variables allow for the parameterization of a workflow. A flow variable is a parameter that can assume different values at different execution points in the workflow and overwrite configuration settings in upcoming nodes.
- Creating a Flow Variable
  1. Use a Configuration or a Widget node to create a Flow Variable at any point in your workflow.
  2. Use any of the nodes converting data to a Flow Variable.
- A Flow Variable can be stored in the configuration window in the Flow Variables tab. Fill in a box with the name of the node in the top part.
- The Flow Variable Node Program then reads the value of the flow variable and selects the corresponding node.

**CLEANING**

- Defines and applies a strategy to replace missing values in the input table either globally in all columns, or individually for each column separately.
- Detects duplicate rows and applies the selected operation, e.g., removes duplicate rows. Deletes non-repeating rows that have the same value in all selected columns.
- Allows to compare values of two columns based on a defined primary and secondary column. The node outputs a new column where the output value for each row will be the value in the primary column if it is not missing, or the value in the secondary column otherwise.

**USING FILTERING**

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- The filtering rule can match values in a selected column or numbers in a numerical range.
- Plots columns in a reference column (x-axis); Data points are colored or defined with lines. If the reference column on the top table contains text, the fine line graphically represents the association of text values.
- A filtering rule can be created by clicking on the reference column in the formula view.
- The filtering rule can be defined by a category column.
- Filters columns in or out of the input table. Column to be filtered can be manually selected, selected according to their data type, or based on a wildcard or negated expression matching their name.
- Sorts the input table according to a defined sorting criteria and keeps only rows that match the order specified. The output table will be identical to the input table except for the single updated cell.
- Drops the input table based on the chosen row and column range. The row range is defined by the row number, the column range either via column name or number.

**USING VALUE CREATION**

- Implements a number of mathematical operations across multiple input columns. The mathematical operations can be applied to multiple columns with the Math Formula (Multi Column) node.
- Renames selected columns according to the column name defined in the dialog. Column names must remain unique! Replace values in a selected string column if they match a defined pattern.
- Updates a single cell of the output table with the value of the specified flow variable. The cell to be updated must be specified via the row number and column name. The output table will be identical to the input table except for the single updated cell.
- Updates cells in the top input table with matching cells from the bottom update table. A matching cell must have the same column name and flowID in both tables. Multiple values of multiple rows and columns can be updated. Additional rows and columns from the update table can be appended to the input table.

**USING FLOW VARIABLES**

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**CLEANING**

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- Detects duplicate rows and applies the selected operation, e.g., removes duplicate rows. Deletes non-repeating rows that have the same value in all selected columns.
- Allows to compare values of two columns based on a defined primary and secondary column. The node outputs a new column where the output value for each row will be the value in the primary column if it is not missing, or the value in the secondary column otherwise.
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