Using Alteryx

Alteryx is used by several Big Four accounting firms to automate the ETL process. In this exercise, you will **E**xtract the General Journal file, **T**ransform the data into the required format (a General Ledger and an Unadjusted Trial Balance), and then **L**oad the transformed data into Excel.

The journal entries for *A Byte of Accounting* are stored in an Excel sheet titled General Journal. Notice that the column headings are in the fourth row, and some rows do not have account numbers.

Begin with the General Journal

	Transaction	Date	Account	Name	Description	Debit	Credit
	01	Jun 01	1110	Cash	Investment from Mark Friedman	28,000.00	
	01	Jun 01	3100	Capital Stock	Investment from Mark Friedman		28,000.00
	02	Jun 01	1211	Office Equip.	Hudson equipment Invoice BC3887	4,000.00	
	02	Jun 01	2101	Accounts Payable	Hudson equipment Invoice BC3887		4,000.00
	08	Jun 14	1110	Cash	Services performed by Lucus Pictures	11,000.00	
	08	Jun 14	4100	Computer & Consulting Revenue	Services performed by Lucus Pictures		11,000.00

A Byte of Accounting, Inc. General Journal

Note: You can only enter data into the yellow filled cells.

General Journal | General Journal Part 2 | Worksheet | Income Statement | Changes in Retair ...

End with the General Ledger   and   the Unadjusted Trial Balance

| Account Name	Transaction	Date	Description	Debit	Credit	Running Balance
1110 Cash	1	6/1/2018	Investment from Mark Friedman	$28,000.00	$ -	$ 28,000.00
1110 Cash	3	6/1/2018	Hailey Computers 87245, ck6001	$ -	$ 7,000.00	$ 21,000.00
1110 Cash	5	6/4/2018	Scanner, Jake Supplies, 54-541 ck6002	$ -	$ 125.00	$ 20,875.00
1110 Cash	7	6/8/2018	Pd A/p ck6003	$ -	$ 640.00	$ 20,235.00
1110 Cash	8	6/14/2018	Services performed by Lucus Pictures	$11,000.00	$ -	$ 31,235.00
1211 Office Equip.	2	6/1/2018	Hudson equipment Invoice BC3887	$ 4,000.00	$ -	$ 4,000.00
1211 Office Equip.	5	6/4/2018	Scanner, Jake Supplies, 54-541 ck6002	$ 125.00	$ -	$ 4,125.00
1311 Computer Equip.	3	6/1/2018	Hailey Computers 87245, ck6001	$ 7,000.00	$ -	$ 7,000.00
2101 Accounts Payable	2	6/1/2018	Hudson equipment Invoice BC3887	$ -	$ 4,000.00	$ (4,000.00)
2101 Accounts Payable	4	6/2/2018	Avery Repairs, Invoice 25478	$ -	$ 725.00	$ (4,725.00)
2101 Accounts Payable	6	6/8/2018	Zac Advertising,23547	$ -	$ 3,380.00	$ (8,105.00)
2101 Accounts Payable	7	6/8/2018	Pd A/p ck6003	$ 640.00	$ -	$ (7,465.00)
3100 Capital Stock	1	6/1/2018	Investment from Mark Friedman	$ -	$28,000.00	$ (28,000.00)
4100 Computer & Consulting Revenue	8	6/14/2018	Services performed by Lucus Pictures	$ -	$11,000.00	$ (11,000.00)
5030 Advertising Expense	6	6/8/2018	Zac Advertising,23547	$ 3,380.00	$ -	$ 3,380.00
5040 Repairs & Maint. Expense	4	6/2/2018	Avery Repairs, Invoice 25478	$ 725.00	$ -	$ 725.00

| Account And Name	Balance
1110 Cash	31235
1211 Office Equip.	4125
1311 Computer Equip.	7000
2101 Accounts Payable	-7465
3100 Capital Stock	-28000
4100 Computer & Consulting Revenue	-11000
5030 Advertising Expense	3380
5040 Repairs & Maint. Expense	725

Start Alteryx

There are four major parts of the Alteryx window. The first is the Canvas, and that's where we're going to create the workflow. Second, the Tools Palette is where all the tools are stored. Third, the Configuration area is where the tool settings are modified. Lastly, the Results window shows us the result after we select "Run" to apply the changes.
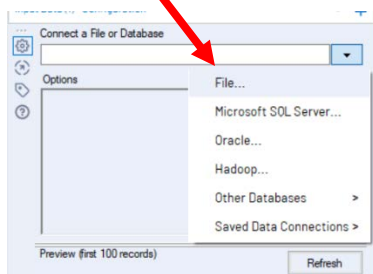
Tool 1: Input Data Tool – Input Excel file

Drag the "Input Data Tool"   from the Tools Palette to the Canvas.
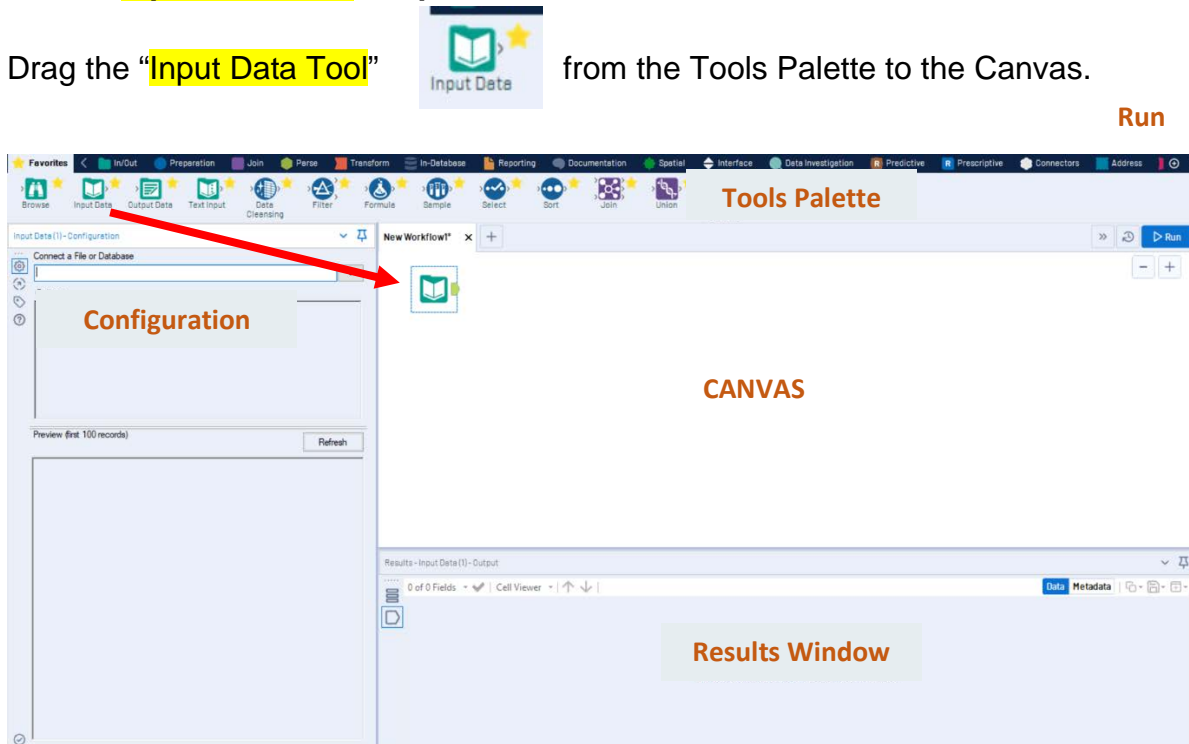
In the Configuration area, select the "Connect a File or Database" drop-down arrow.
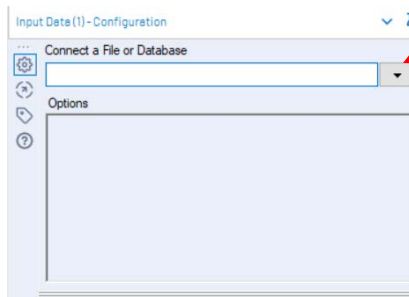
Select "File".

Browse for the desired file
and select the version with
the .xlsx file extension.

Select "Open".
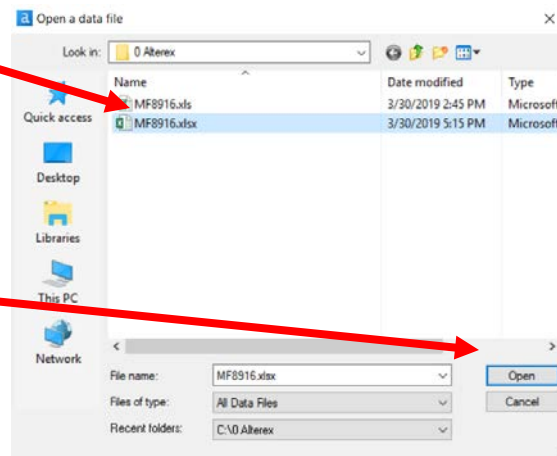
Select the drop-down arrow to the right
of "Balance Sheet".

Select "General Journal".

Select "OK".

Remember that the field names are in the fourth row.

In the Configuration area, change the number in "Start Data Import on Line" to "4".

Select "Run".

The Results window will display the field headings and the data.

Tool 2: Filter Tool – Exclude all rows that do not contain data

There are several rows that do not contain an account number. We can modify the working dataset so that it includes only those rows that contain account numbers greater than one. Note that we are not deleting anything from the source data file. The working dataset will be split into two subsets. The first subset, "True", will include all rows with account numbers greater than one. The second subset, "False", will contain all rows with account numbers less than one.

Drag the "**Filter Tool**" from the Tools Palette to the right of the "Input Data Tool" on the Canvas. The two will be connected automatically. The outflow from the tool on the left is the inflow to the one on the right.
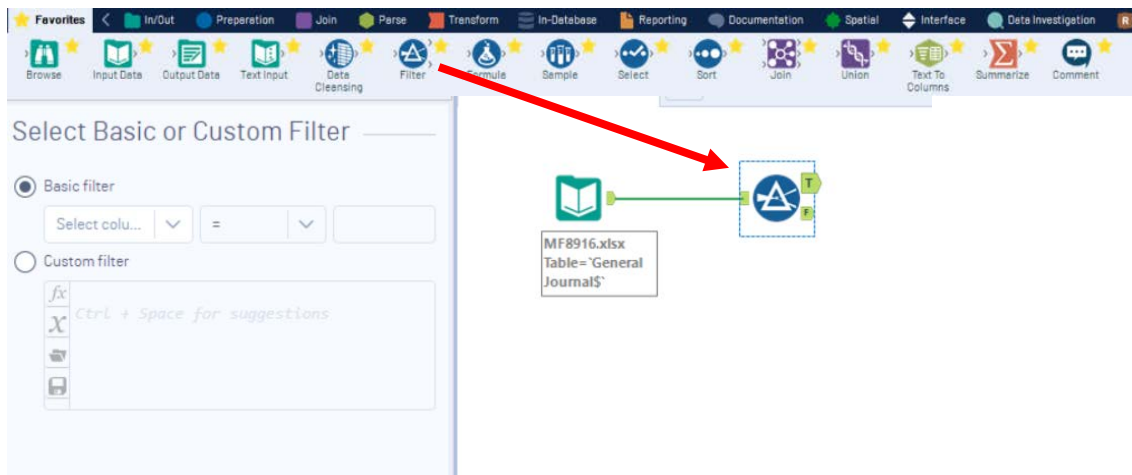
With the "**Filter Tool**" selected, the "Basic" filter in the Configuration area can be modified to filter the field "Account" for those accounts greater than "1'.
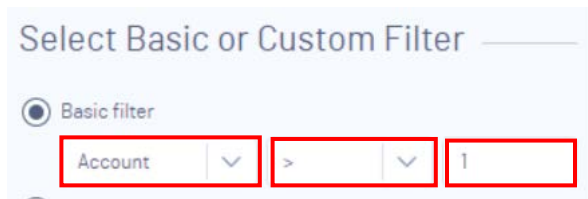
To apply the latest change, select "Run".
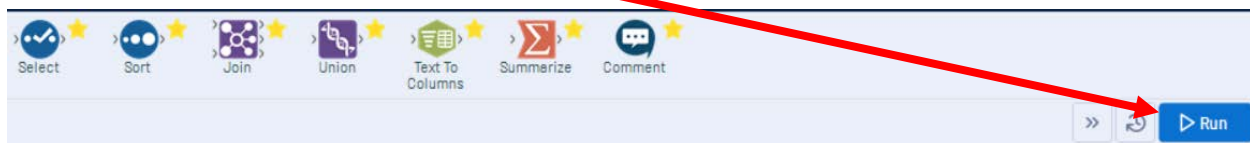
We can view three different datasets in the Results window.

The records that meet the filtered conditions, "Account > 1", are displayed as T (True).

The records that do not meet the filtered conditions are displayed as F (False).

The data being filtered can also be displayed.

Tool 3: Select Tool – Remove fields that contain no data, from F8 to F15

Drag the "Select Tool" from the Tools Palette to the True output of the "Filter Tool" on the Canvas. The two will be connected automatically.
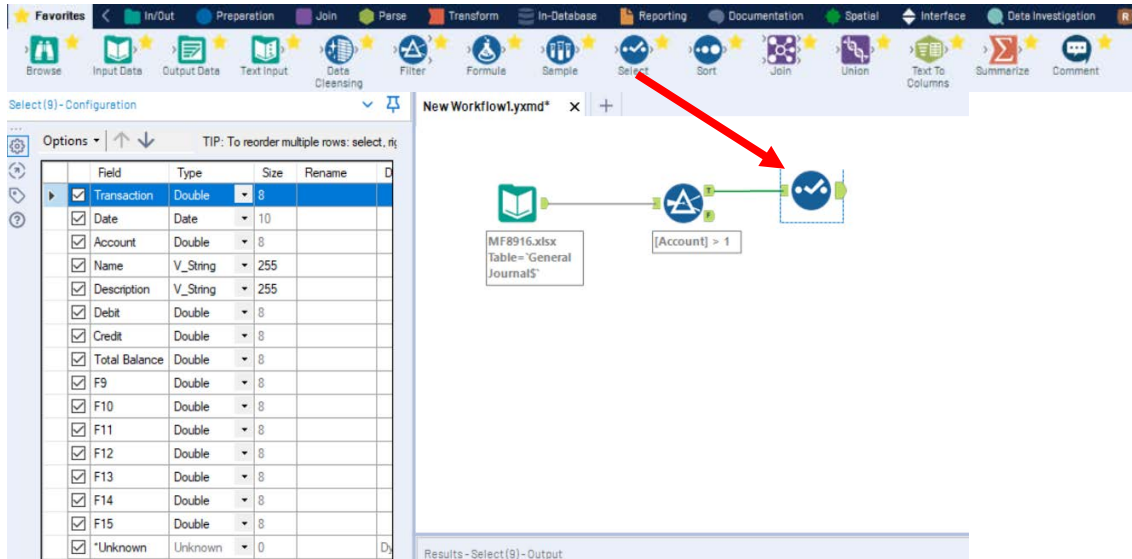
Remove the extra fields by unchecking them.

Select "Run".

Tool 4: Select Tool – Sort by "Account" and then "Transaction"

Notice that the original data from Excel had a hidden column "**Total Balance**" that contained the following formula: "Debits – Credits".

The data is displayed as it was extracted from the source document. We want to have the data in "Account" order and subsequently in "Transaction" order.

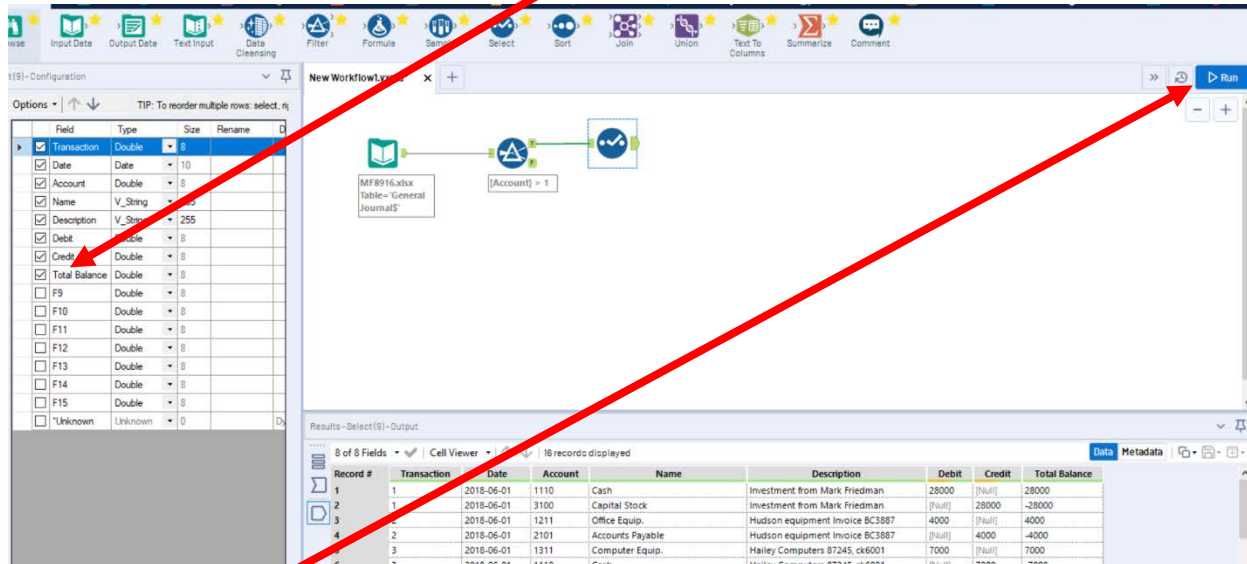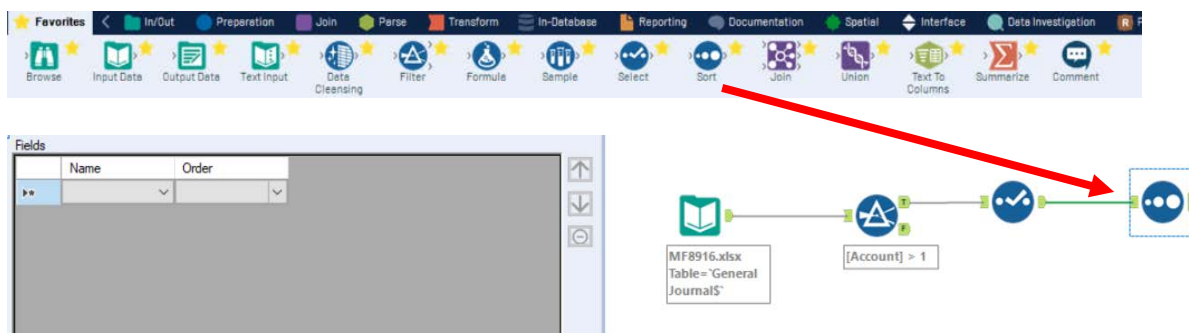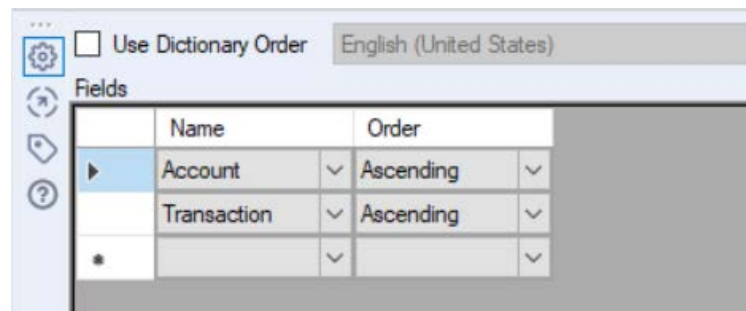Drag the "**Sort Tool**" from the Tools Palette to the right of the "**Select Tool**" on the Canvas. The two will be connected automatically. The outflow from the tool on the left is the inflow to the one on the right.

Change the sort configuration of "**Account**" and "**Transaction**" to "**Ascending**".

Select "Run".

Record #	Transaction	Date	Account	Name	Description	Debit	Credit	Total Balance
1	1	2018-06-01	1110	Cash	Investment from Mark Friedman	28000	[Null]	28000
2	3	2018-06-01	1110	Cash	Hailey Computers 87245, ck6001	[Null]	7000	-7000
3	5	2018-06-04	1110	Cash	Scanner, Jake Supplies, 54-541 ck6002	[Null]	125	-125
4	7	2018-06-08	1110	Cash	Pd A/p ck6003	[Null]	640	-640
5	8	2018-06-14	1110	Cash	Services performed by Lucus Pictures	11000	[Null]	11000
6	2	2018-06-01	1211	Office Equip.	Hudson equipment Invoice BC3887	4000	[Null]	4000
7	5	2018-06-04	1211	Office Equip.	Scanner, Jake Supplies, 54-541 ck6002	125	[Null]	125
8	3	2018-06-01	1311	Computer Equip.	Hailey Computers 87245, ck6001	7000	[Null]	7000
9	2	2018-06-01	2101	Accounts Payable	Hudson equipment Invoice BC3887	[Null]	4000	-4000

Tool 5: Data Cleansing Tool – Replace "Null" with "0"

There are cells in the "Debit" and "Credit" columns that are coded as "Null".
Drag the "Data Cleansing Tool" from the Tools Palette to the right of the "Sort Tool" on the Canvas. The two will be connected automatically. The outflow from the tool on the left is the inflow to the one on the right.
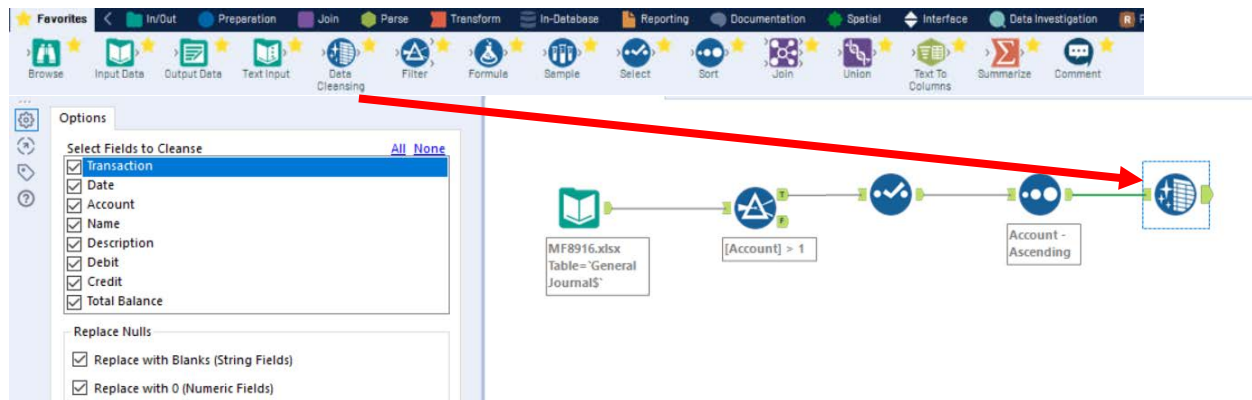
Change the configuration, leaving only "Debit" and "Credit" checked.

Select "Replace with 0" on the "Replace Nulls" option.

Select "Run".

Tool 6: Running Total Tool – Create a "Running Total"

The General Ledger has a running balance within each account.

Drag the "**Running Total Tool**" from the Transform tab to the right of the "**Data Cleaning Tool**" on the Canvas. The two will be connected automatically. The outflow from the tool on the left is the inflow to the one on the right.

Add a "Running Total Tool" from the Transform tab.

Change the configuration of "Group By" to "Account".

Select "Total Balance" on "Create Running Total".

Select "Run".

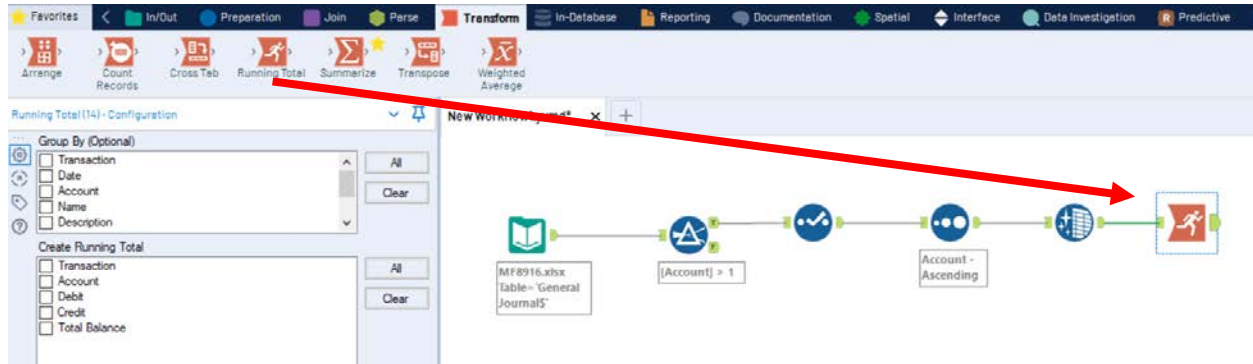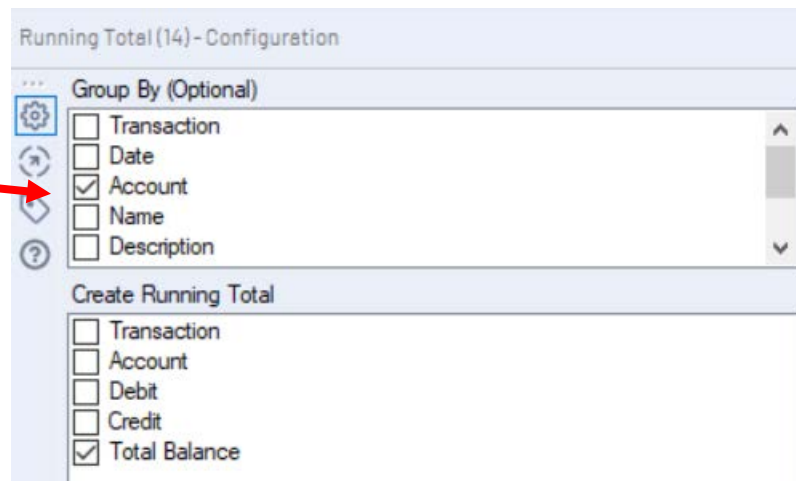| Record #	Transaction	Date	Account	Name	Description	Debit	Credit	Total Balance	RunTot_Total Balance
1	1	2018-06-01	1110	Cash	Investment from Mark Friedman	28000	0	28000	28000
2	3	2018-06-01	1110	Cash	Hailey Computers 87245, ck6001	0	7000	-7000	21000
3	5	2018-06-04	1110	Cash	Scanner, Jake Supplies, 54-541 ck6002	0	125	-125	20875
4	7	2018-06-08	1110	Cash	Pd A/p ck6003	0	640	-640	20235
5	8	2018-06-14	1110	Cash	Services performed by Lucus Pictures	11000	0	11000	31235
6	2	2018-06-01	1211	Office Equip.	Hudson equipment Invoice BC3887	4000	0	4000	4000
7	5	2018-06-04	1211	Office Equip.	Scanner, Jake Supplies, 54-541 ck6002	125	0	125	4125
8	3	2018-06-01	1311	Computer Equip.	Hailey Computers 87245, ck6001	7000	0	7000	7000
9	2	2018-06-01	2101	Accounts Payable	Hudson equipment Invoice BC3887	0	4000	-4000	-4000

Tool 7: <mark>Select Tool Display</mark> – "Account" and "Name" in front of "Transaction"

Drag another "<mark>Select Tool</mark>" to the right of the "<mark>Running Total Tool</mark>" on the Canvas. The two will be connected automatically. The outflow from the tool on the left is the inflow to the one on the right.
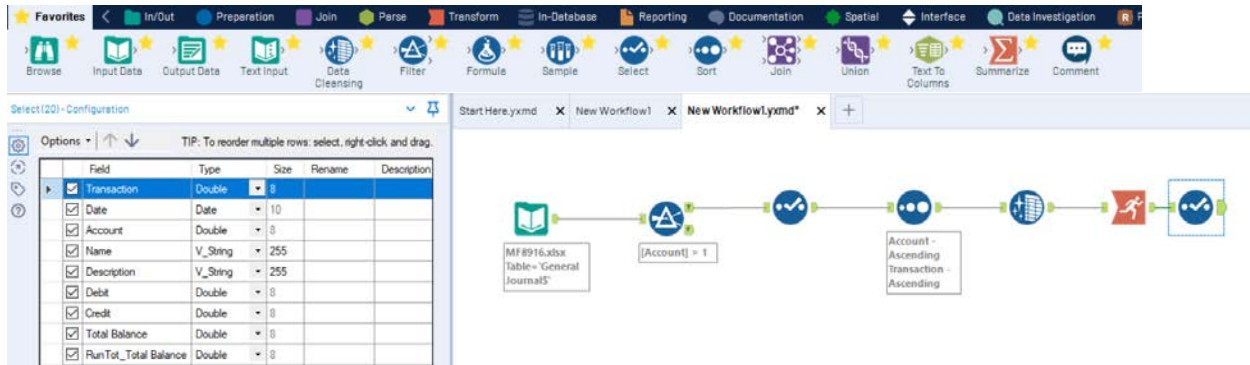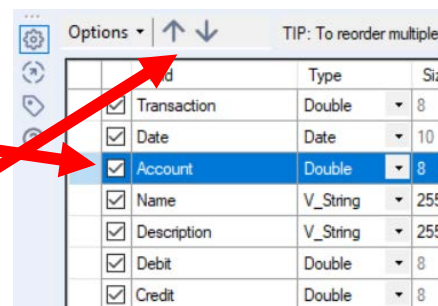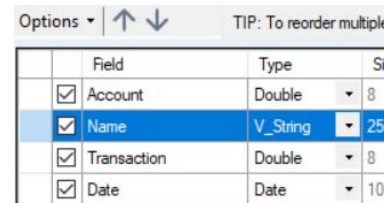

Rearrange the fields in the Configuration area.

Select the field "Account".

Click on the up arrow twice to move "Account" to the first position.

Move the field "Name" to the second position.

Select "Run".

Record #	Account	Name	Transaction	Date	Description	Debit	Credit	Total Balance	RunTot_Total Balan
1	1110	Cash	1	2018-06-01	Investment from Mark Friedman	28000	0	28000	28000
2	1110	Cash	3	2018-06-01	Hailey Computers 87245, ck6001	0	7000	-7000	21000
3	1110	Cash	5	2018-06-04	Scanner, Jake Supplies, 54-541 ck6002	0	125	-125	20875
4	1110	Cash	7	2018-06-08	Pd A/p ck6003	0	640	-640	20235
5	1110	Cash	8	2018-06-14	Services performed by Lucus Pictures	11000	0	11000	31235
6	1211	Office Equip.	2	2018-06-01	Hudson equipment Invoice BC3887	4000	0	4000	4000
7	1211	Office Equip.	5	2018-06-04	Scanner, Jake Supplies, 54-541 ck6002	125	0	125	4125
8	1311	Computer Equip.	3	2018-06-01	Hailey Computers 87245, ck6001	7000	0	7000	7000
9	2101	Accounts Payable	2	2018-06-01	Hudson equipment Invoice BC3887	0	4000	4000	4000

Remove the field "Total Balance" from the output by unchecking it.

Select "Run".

Record #	Account	Name	Transaction	Date	Description	Debit	Credit	RunTot_Total Balance
1	1110	Cash	1	2018-06-01	Investment from Mark Friedman	28000	0	28000
2	1110	Cash	3	2018-06-01	Hailey Computers 87245, ck6001	0	7000	21000
3	1110	Cash	5	2018-06-04	Scanner, Jake Supplies, 54-541 ck6002	0	125	20875
4	1110	Cash	7	2018-06-08	Pd A/p ck6003	0	640	20235
5	1110	Cash	8	2018-06-14	Services performed by Lucus Pictures	11000	0	31235
6	1211	Office Equip.	2	2018-06-01	Hudson equipment Invoice BC3887	4000	0	4000
7	1211	Office Equip.	5	2018-06-04	Scanner, Jake Supplies, 54-541 ck6002	125	0	4125
8	1311	Computer Equip.	3	2018-06-01	Hailey Computers 87245, ck6001	7000	0	7000
9	2101	Accounts Payable	2	2018-06-01	Hudson equipment Invoice BC3887	0	4000	4000

Change the name of the field "Run Tot_Total Balance" to "Running Balance".

Select "Run".

Tool 8: <mark>Select Tool Output Data Tool</mark>: We now want to export the cleaned and assembled General Ledger to Excel.

Drag an "<mark>**Output Data Tool**</mark>" to the right of the "<mark>**Select Tool**</mark>" on the Canvas. The two will be connected automatically. The outflow from the tool on the left is the inflow to the one on the right.

In the output Configuration area, select the drop-down arrow.

Select "File".

Select the required file name.

Select "Save".

Confirm Save As

⚠ MF8916.xlsx already exists.
Do you want to replace it?

Click on "Yes" to confirm
"Save".

Yes   No

Table...   ✕

The output file format that was specified
requires a table (or worksheet) name.
Please enter that below:

Enter the "Sheet Name".

General Ledger

Select "OK".

OK   Cancel
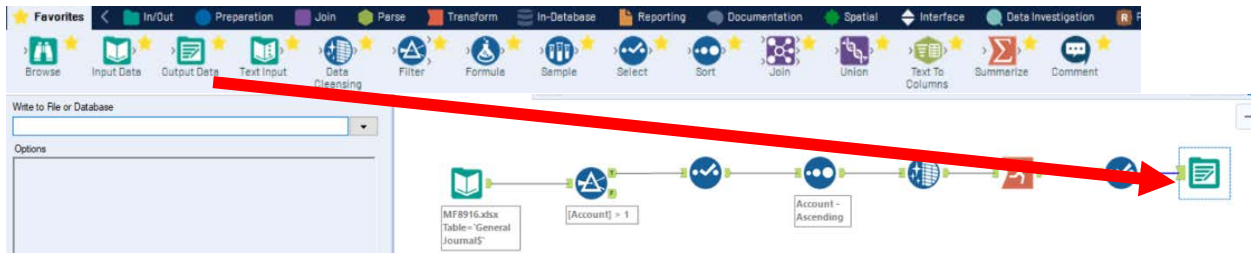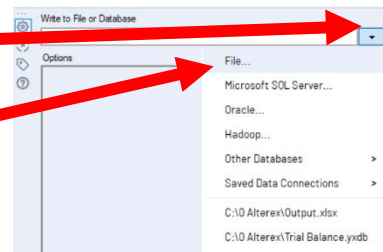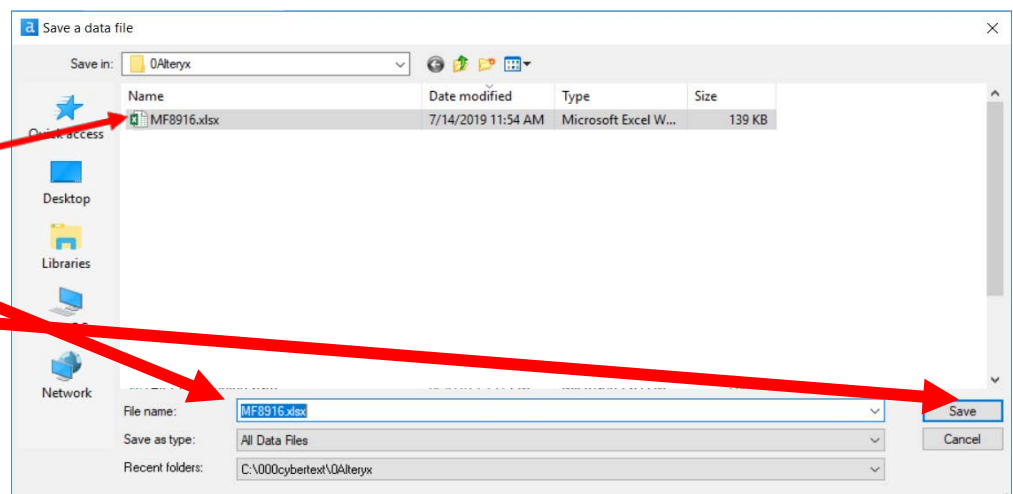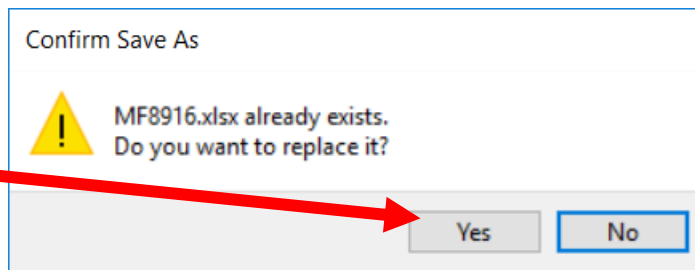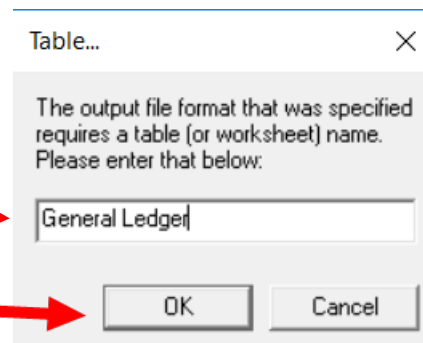
Select "Run".

Open the file in Excel.

	A	B	C	D	E	F	G	H	I
1	Account	Name	Transactio	Date	Descriptio	Debit	Credit	Running Balance	
2	1110	Cash	1	6/1/2018	Investmen	28000	0	28000	
3	1110	Cash	3	6/1/2018	Hailey Con	0	7000	21000	
4	1110	Cash	5	6/4/2018	Scanner, Ja	0	125	20875	
5	1110	Cash	7	6/8/2018	Pd A/p ck6	0	640	20235	
6	1110	Cash	8	########	Services pe	11000	0	31235	
7	1211	Office Equ	2	6/1/2018	Hudson eq	4000	0	4000	
8	1211	Office Equ	5	6/4/2018	Scanner, Ja	125	0	4125	
9	1311	Computer	3	6/1/2018	Hailey Con	7000	0	7000	
10	2101	Accounts F	2	6/1/2018	Hudson eq	0	4000	-4000	
11	2101	Accounts F	4	6/2/2018	Avery Repa	0	725	-4725	
12	2101	Accounts F	6	6/8/2018	Zac Advert	0	3380	-8105	
13	2101	Accounts F	7	6/8/2018	Pd A/p ck6	640	0	-7465	
14	3100	Capital Stc	1	6/1/2018	Investmen	0	28000	-28000	
15	4100	Computer	8	########	Services pe	0	11000	-11000	
16	5030	Advertising	6	6/8/2018	Zac Advert	3380	0	3380	
17	5040	Repairs & I	4	6/2/2018	Avery Repa	725	0	725	
18									

Change the columns' widths and formats.

	A	B	C	D	E	F	G	H
1	Account	Name	Transaction	Date	Description	Debit	Credit	Running Balance
2	1110	Cash	1	6/1/2018	Investment from Mark Friedman	$28,000.00	$ -	$ 28,000.00
3	1110	Cash	3	6/1/2018	Hailey Computers 87245, ck6001	$ -	$ 7,000.00	$ 21,000.00
4	1110	Cash	5	6/4/2018	Scanner, Jake Supplies, 54-541 ck6002	$ -	$ 125.00	$ 20,875.00
5	1110	Cash	7	6/8/2018	Pd A/p ck6003	$ -	$ 640.00	$ 20,235.00
6	1110	Cash	8	6/14/2018	Services performed by Lucus Pictures	$11,000.00	$ -	$ 31,235.00
7	1211	Office Equip.	2	6/1/2018	Hudson equipment Invoice BC3887	$ 4,000.00	$ -	$ 4,000.00
8	1211	Office Equip.	5	6/4/2018	Scanner, Jake Supplies, 54-541 ck6002	$ 125.00	$ -	$ 4,125.00
9	1311	Computer Equip.	3	6/1/2018	Hailey Computers 87245, ck6001	$ 7,000.00	$ -	$ 7,000.00
10	2101	Accounts Payable	2	6/1/2018	Hudson equipment Invoice BC3887	$ -	$ 4,000.00	$ (4,000.00)
11	2101	Accounts Payable	4	6/2/2018	Avery Repairs, Invoice 25478	$ -	$ 725.00	$ (4,725.00)
12	2101	Accounts Payable	6	6/8/2018	Zac Advertising,23547	$ -	$ 3,380.00	$ (8,105.00)
13	2101	Accounts Payable	7	6/8/2018	Pd A/p ck6003	$ 640.00	$ -	$ (7,465.00)
14	3100	Capital Stock	1	6/1/2018	Investment from Mark Friedman	$ -	$28,000.00	$ (28,000.00)
15	4100	Computer & Consulting Revenue	8	6/14/2018	Services performed by Lucus Pictures	$ -	$11,000.00	$ (11,000.00)
16	5030	Advertising Expense	6	6/8/2018	Zac Advertising,23547	$ 3,380.00	$ -	$ 3,380.00
17	5040	Repairs & Maint. Expense	4	6/2/2018	Avery Repairs, Invoice 25478	$ 725.00	$ -	$ 725.00

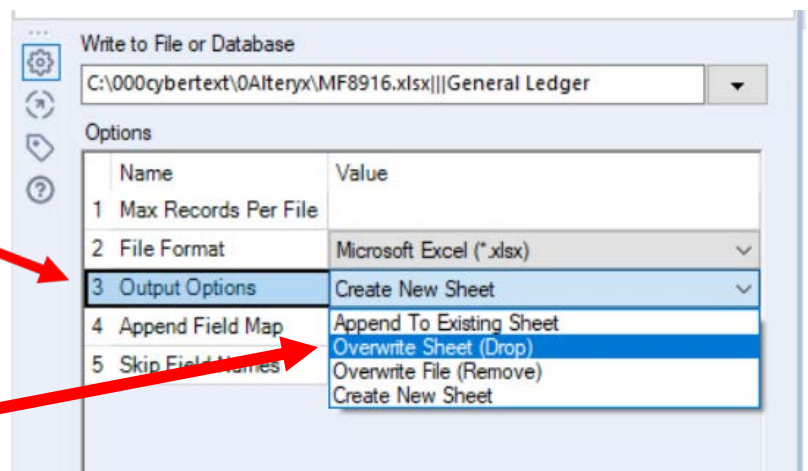And, the General Ledger has been created successfully.

"Save" and "Close" the Excel file.
Return to Alteryx and select "Run" for the second time.

But, there is an error! The sheet already exits.
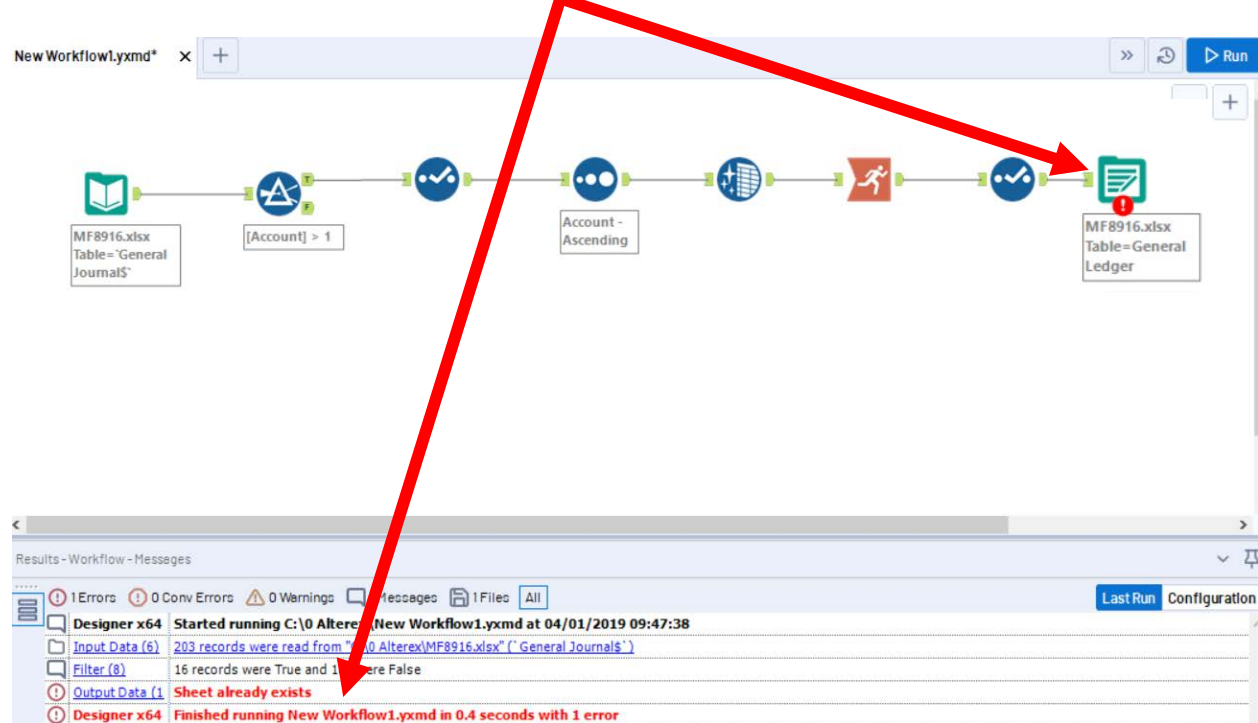
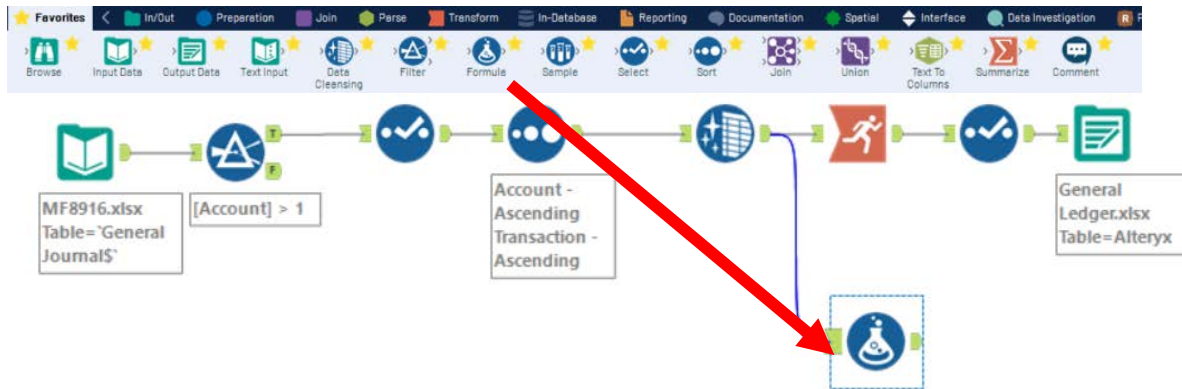In the output Configuration area, select "Output Options".

Select "Overwrite Sheet" (which drops the old sheet).
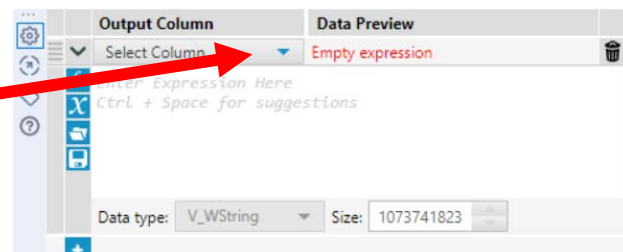
Select "Run".

The "Unadjusted Trial Balance" will summarize the "Total Balance" by account number with the account name attached for clarity.

Tool 9: <mark>Select Tool Formula</mark>: We now want to combine the fields "Account" and "Name". "Account" is a numeric field, while "Name' is a string, and we would like to have two spaces between the fields.

Drag a "**Formula Tool**" under the "<mark>**Running Balance Tool**</mark>" branching from the "**Cleansing Tool**" on the Canvas. The two will be connected automatically. The outflow from the tool on the left is the inflow to the one on the right.
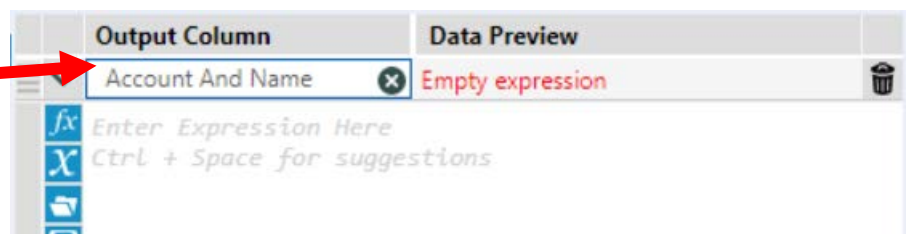
In the output Configuration area, click on the drop-down arrow of "Select Column".
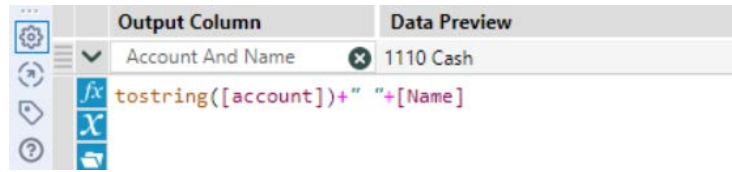
Select "Add Column".
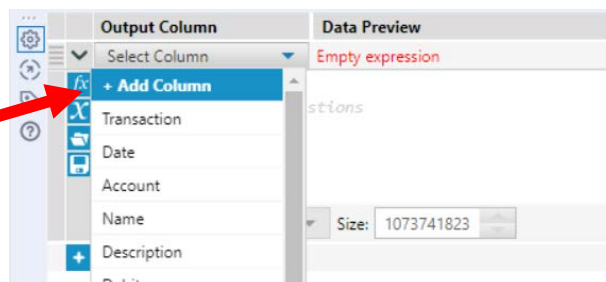
Type "Account And Name".

Type the following formula
tostring([account])+" "+[Name]

Select "Run".

| Record #	Transaction	Date	Account	Name	Description	Debit	Credit	Total Balance	Account And Name
8	3	2018-06-01	1311	Computer Equip.	Hailey Computers 87245, ck6001	7000	0	7000	1311 Computer Equip.
9	2	2018-06-01	2101	Accounts Payable	Hudson equipment Invoice BC3887	0	4000	-4000	2101 Accounts Payable
10	4	2018-06-02	2101	Accounts Payable	Avery Repairs, Invoice 25478	0	725	-725	2101 Accounts Payable
11	6	2018-06-08	2101	Accounts Payable	Zac Advertising,23547	0	3380	-3380	2101 Accounts Payable
12	7	2018-06-08	2101	Accounts Payable	Pd A/p ck6003	640	0	640	2101 Accounts Payable
13	1	2018-06-01	3100	Capital Stock	Investment from Mark Friedman	0	28000	-28000	3100 Capital Stock
14	8	2018-06-14	4100	Computer & Consulting Revenue	Services performed by Lucus Pictures	0	11000	-11000	4100 Computer & Consulting Re
15	6	2018-06-08	5030	Advertising Expense	Zac Advertising,23547	3380	0	3380	5030 Advertising Expense
16	4	2018-06-02	5040	Repairs & Maint. Expense	Avery Repairs, Invoice 25478	725	0	725	5040 Repairs & Maint. Expense

Tool 10: <mark>Select Tool Summary</mark>: We now want to create an "Unadjusted Trial Balance" by calculating the account balances.

Drag a "**<mark>Summary Tool</mark>**" to the right of the "**<mark>Cleansing tool</mark>**" on the Canvas. The two will be connected automatically. The outflow from the tool on the left is the inflow to the one on the right.
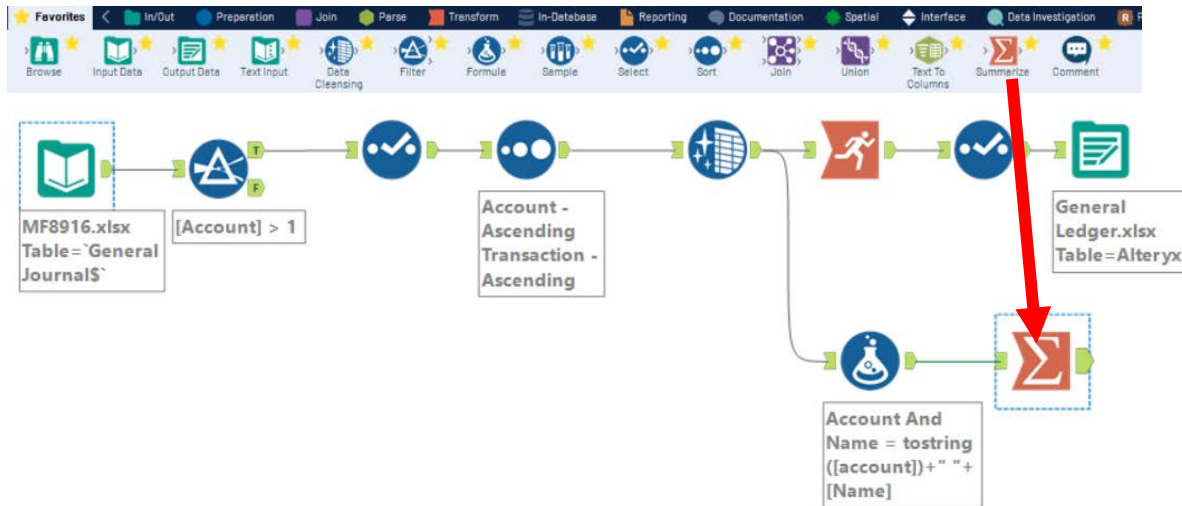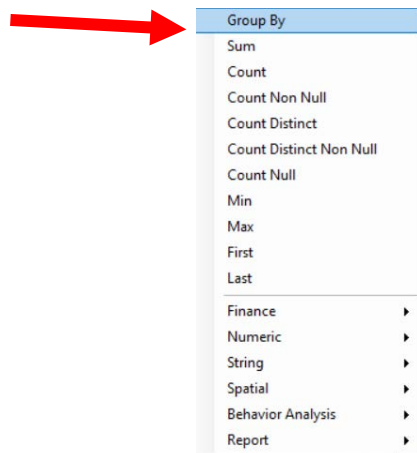
In the output Configuration area, select "Account And Name".

Click on the drop-down arrow on "Actions" and select "Add".
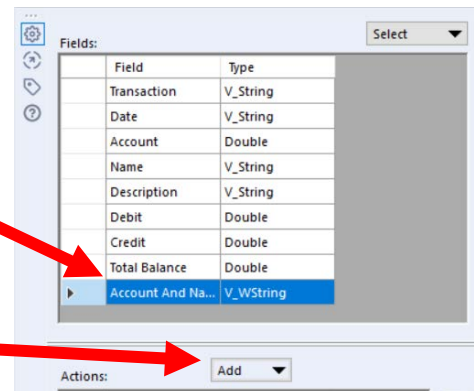
Select "Group By".

Select "Total Balance".

Click on the drop-down arrow on "Actions" and select
"Add".

Select "Sum".

Select "Run".

Select the output of the "Summary Tool".

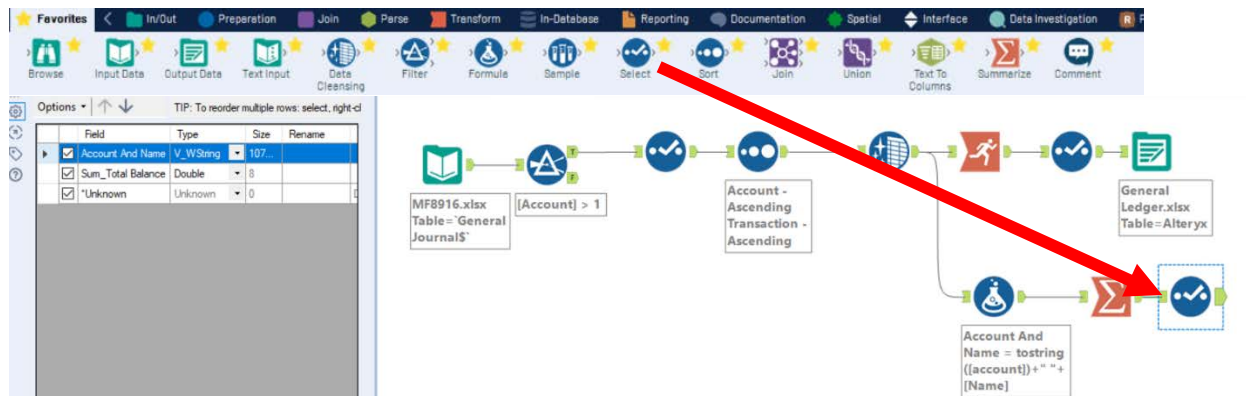And, the "Unadjusted Trial Balance" is created.
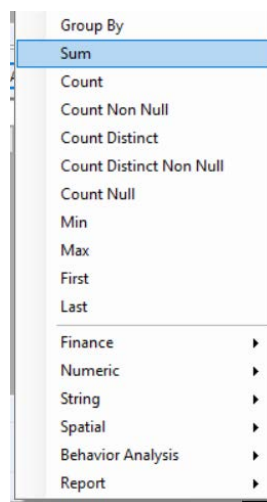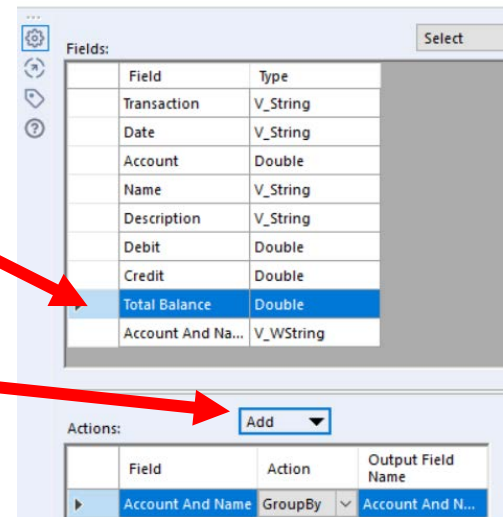
Record #	Account And Name	Sum_Total Balance
1	1110 Cash	31235
2	1211 Office Equip.	4125
3	1311 Computer Equip.	7000
4	2101 Accounts Payable	-7465
5	3100 Capital Stock	-28000
6	4100 Computer & Consulting Revenue	-11000
7	5030 Advertising Expense	3380
8	5040 Repairs & Maint. Expense	725

Tool 11: Select Tool – Rename a field

Drag another "Select Tool" to the right of the "Summary Tool" on the Canvas. The two will be connected automatically. The outflow from the tool on the left is the inflow to the one on the right.

Rename the "Sum_Total Balance" in the Configuration area to "Balance".

Select "Run".
Select the output of the "Select Tool".

And, the Unadjusted Trial Balance is created.

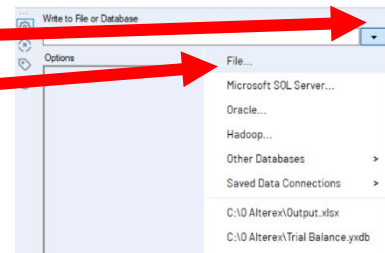| Record #	Account And Name	Balance
1	1110 Cash	31235
2	1211 Office Equip.	4125
3	1311 Computer Equip.	7000
4	2101 Accounts Payable	-7465
5	3100 Capital Stock	-28000
6	4100 Computer & Consulting Revenue	-11000
7	5030 Advertising Expense	3380
8	5040 Repairs & Maint. Expense	725

Tool 12: Select Output Data Tool: We now want to export the "Unadjusted Trial Balance" to Excel.

Drag an "**Output Data Tool**"   to the right of the "**Select Tool**" on the Canvas. The two will be connected automatically. The outflow from the tool on the left is the inflow to the one on the right.
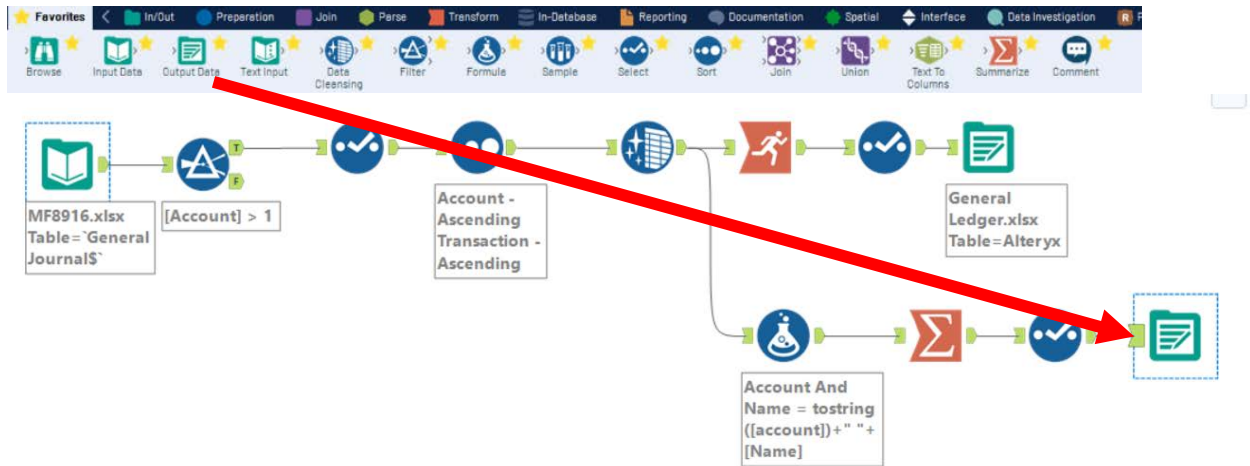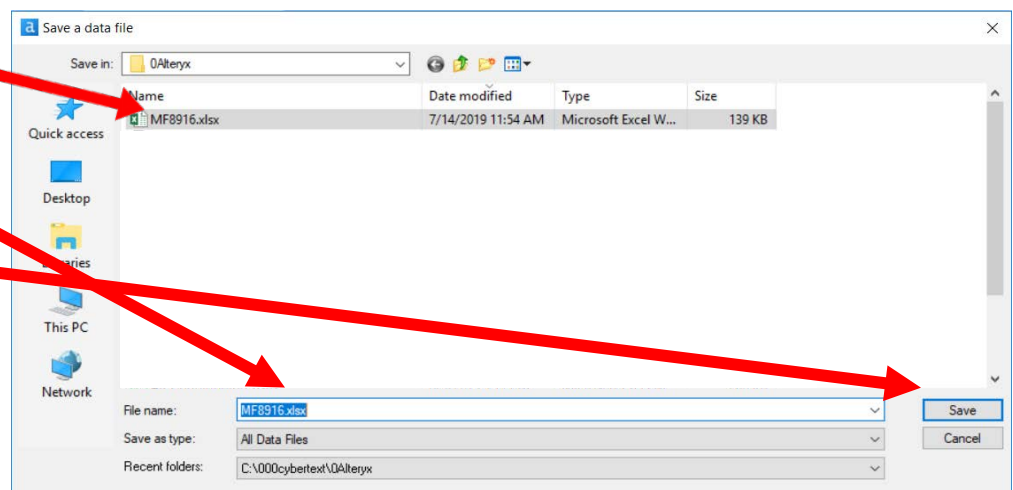

In the output Configuration area, select the drop-down arrow.
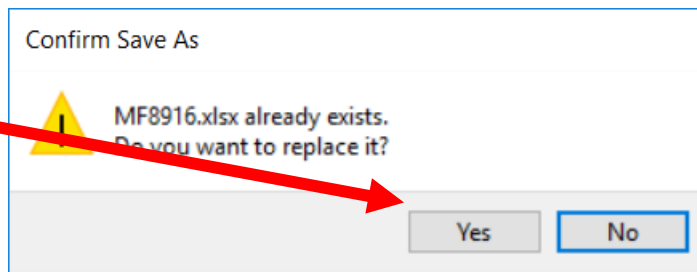
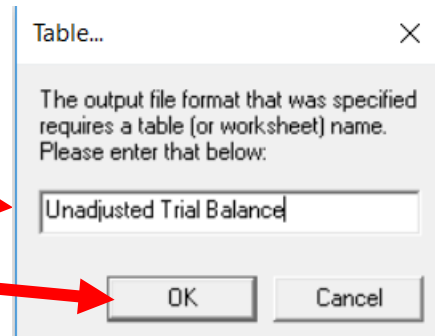Select "File".

Select the required file name.

Select "Save".

Click on "Yes" to confirm
"Save".

Confirm Save As

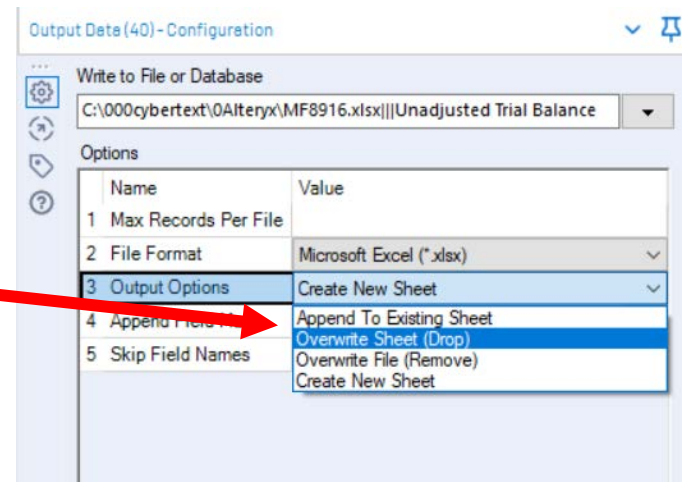⚠ MF8916.xlsx already exists.
   Do you want to replace it?

Yes   No

Table...   ×

The output file format that was specified
requires a table (or worksheet) name.
Please enter that below:

Unadjusted Trial Balance

OK   Cancel

Enter the "Sheet Name".

Select "OK".

Select "Run".

In the output Configuration area,
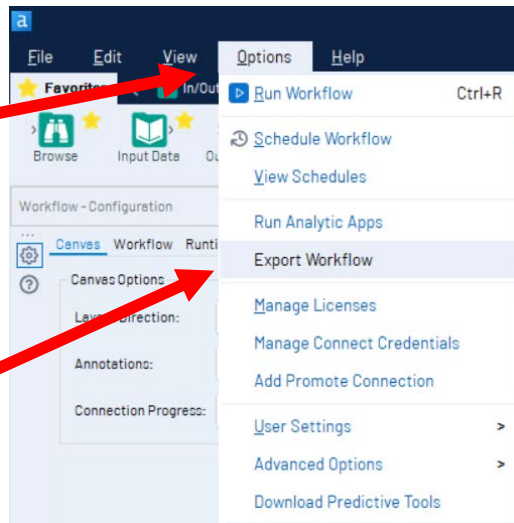Select "Output Options".

Select "Overwrite Sheet" (which drops the
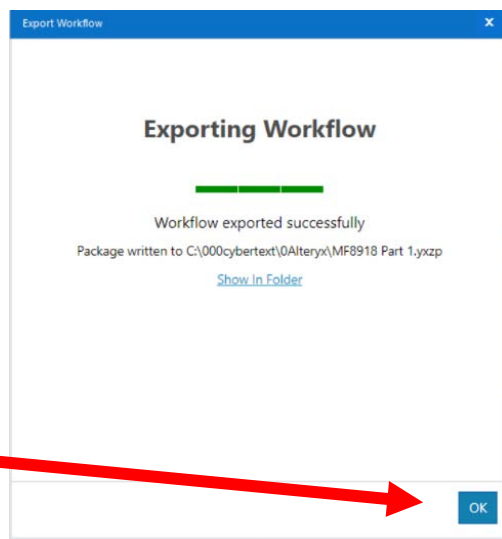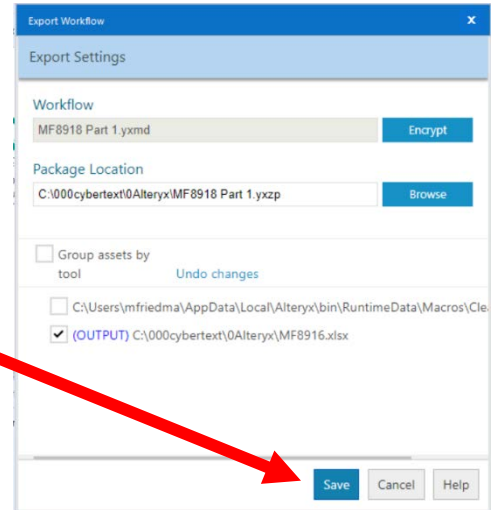old Sheet).

Select "Run".

To export the workflow and the related input files so that you can send the files to someone else:

Select "Options"
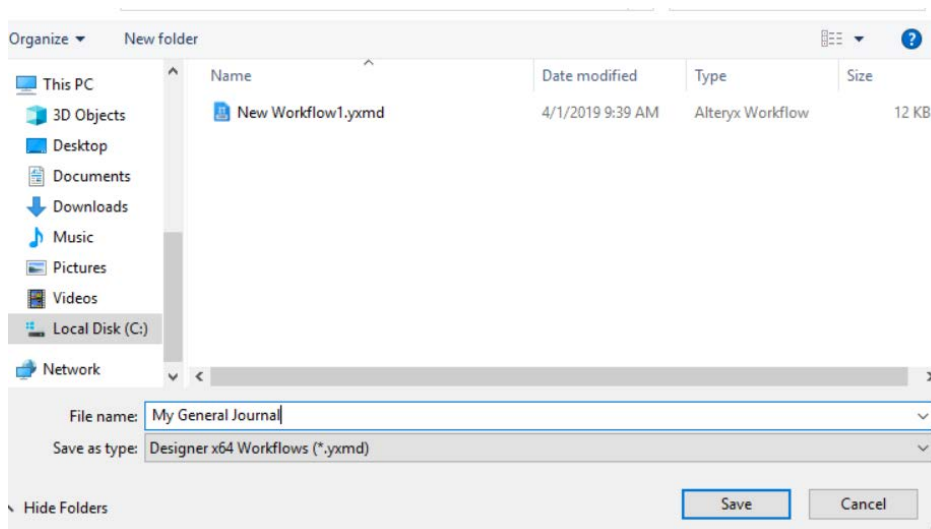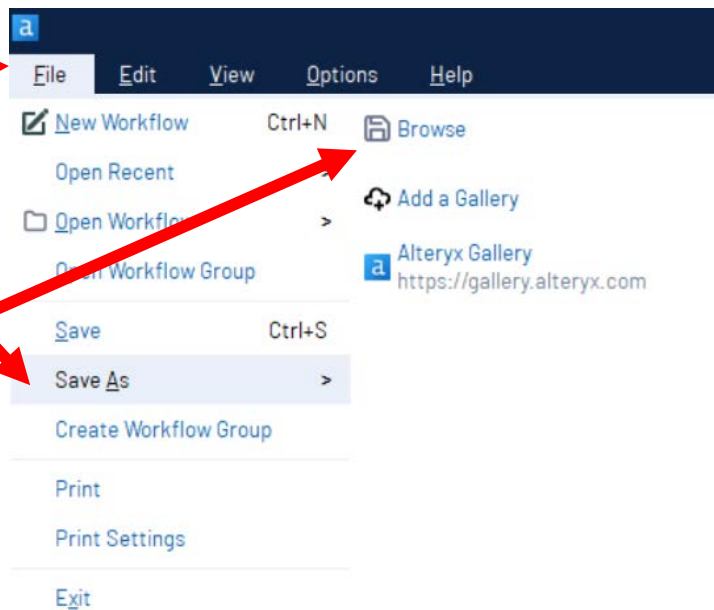
Select "Export Workflow"

Select "Save"

Select "OK"

Save the workflow.

Select "File".

Select "Save As".

Select "Browse".

Select "Save".
And close Alteryx.