ATLANTA ALTERYX USER GROUP

Q3 2020 | 7.23.2020

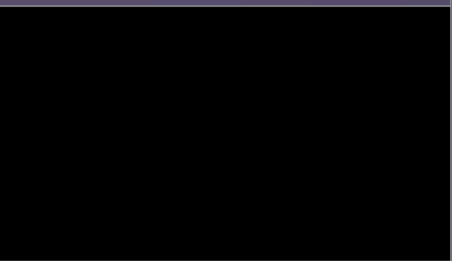alteryx | The Thrill of Solving

NAVIGATION

SLIDES WILL APPEAR HERE!

Useful information will be here!

Maximize/Minimize windows

Join the group chat!
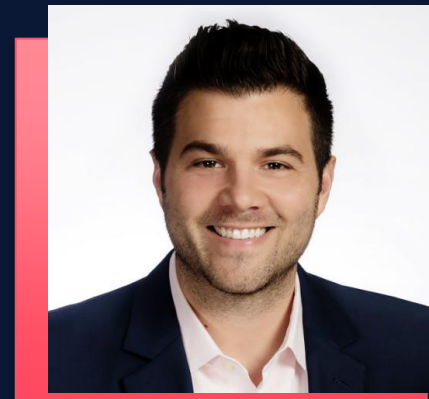Type in where you are from!

LEADERSHIP TEAM:

Tyler Willing

Manager, Data and Decision Sciences
Georgia Pacific

Korri Jones

Sr. Lead Machine Learning Engineer, Enterprise Analytics
Chick-fil-A

Nathan Settembrini

Product Lead and Principal Consultant
Analytic Vizion

*This meeting is being recorded and will be shared on the User Group page.

AGENDA

Welcome	3:00 PM – 3:15 PM
CREW Macros	3:15 PM – 3:45 PM
Mark Frisch- Alteryx ACE, CEO, Marquee Crew	
Q&A/ Closing	3:45 PM – 4:00 PM
Optional Happy Hour	4 PM

ALTERYX COMMUNITY UPDATES

alteryx | The Thrill of Solving

Presenter

Mark Frisch
Alteryx ACE
CEO, Marquee Crew

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CREW MACROS

PRESENTED BY

Mark Frisch, Tessa Enns

Chaos Reigns Within
A FREE-FOR-ALL MACRO PACK

Marquee Crew

#ALTERYX19

FORWARD-LOOKING STATEMENTS

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Marquee Crew

TODAY'S AGENDA

- Welcome
- What Are The CReW macros?
- Installation
- Exercises
- Runner Tools
- Questions

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MEET THE CREW!

WHAT ARE THE CREW MACROS

A community built and supported pack of macros for Alteryx Designer.

Objectives:
- Useful
- Educational
- Open Source
- Community Supported

http://www.chaosreignswithin.com

https://gallery.alteryx.com

https://github.com/AdRiley/ChaosReignsWithin-Alteryx-Macros

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THE CREW MACROS

Wildcard Input | Wildcard XLSX Input | Field Sort | Only Unique | Skip Last N | Conditional Runner | List Runner | Log Parser | Runner

Add Totals | JSON Create | Moving Summarize | Trim Mean | Weighted Median | Bivariate Theming | Gauge | html5 render | NVD3

Street View | Tableau Format | Weighted Average | Chi Square Test | Blocking Test | Dynamic Formula | Dynamic Metadata | Ensure Fields | Label Block Until Done

Parallel Block Until Done | Version | Wait A Second | Expect Equal (BETA) | Expect Error (BETA) | Expect Zero Records (BE... | Test Runner (BETA)

Marquee Crew

WHAT "NEW" IN CREW MACROS

- https://gallery.alteryx.com/

Search results for 'CREW'

All Results
≋ Workflows
🎞 Districts
▤ Pages

Summary

∞% CReWBlockAllRecords
When toggled on, samples out all records. No records are passed downstream, just the metadata. You have an input dataset and want to make sure that the output of your ...

CReW Spatial Match
This spatial match macro uses the delivered Alteryx matching logic, but conserves resources and can operate much faster than the delivered spatial match tool. Spatial obje...

△ CReW Delta (Alpha)
CReW Delta macro is in our laboratory and looking for feedback. This macro allows a user to input two files that are expected to be equal. The user can select which fields a...
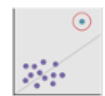
CReW Modify Outliers
Identify, remove or modify records where the variability of incoming data exceeds statistical limits. These outlier records can be identified using Interquartile ranges or by St...

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THE CREW MACROS

THE CREW MACROS

Wildcard Input

Wildcard XLSX Input

Field Sort

Only Unique

Skip Last N

Conditional Runner

List Runner

Log Parser

Runner

Add Totals

JSON Create

Moving Summarize

Trim Mean

Weighted Median

Bivariate Theming

Gauge

html5 render

NVD3

Street View

Tableau Format

Weighted Average

Chi Square Test

Blocking Test

Dynamic Formula

Dynamic Metadata

Ensure Fields

Label Block Until Done

Parallel Block Until Done

Version

Wait A Second

Expect Equal (BETA)

Expect Error (BETA)

Expect Zero Records (BE...

Test Runner (BETA)

Marquee Crew

INSTALLATION

INSTALLATION

- Find Macros.zip in Output folder

- Extract it to a location on your machine where you want to keep the macros. (Not in the Program Files/Alteryx folder or an existing Macros folder)

- Double click Install.yxwz

- Click Finish

- Restart Alteryx

- CReW Macros and CReW Test tool categories

- Pin them (for today)

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DEMOS

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ONLY UNIQUE

Only Unique (1) - Configuration

Questions

Unique Fields

- ✓ Customer_ID
- ☐ Store Number
- ☐ Customer Segment
- ☐ First Name
- ☐ Last Name
- ☐ Visits
- ☐ Spend

- Similar to the unique tool.

- The Unique tool - if there is a duplicate key. One record comes out of the U output the others come out of the D output.

- The Only Unique tool - if there is a duplicate key then all the records with that key come out of the D output.

- Unique creates uniqueness.

- Only Unique helps with the "why?"

Marquee Crew
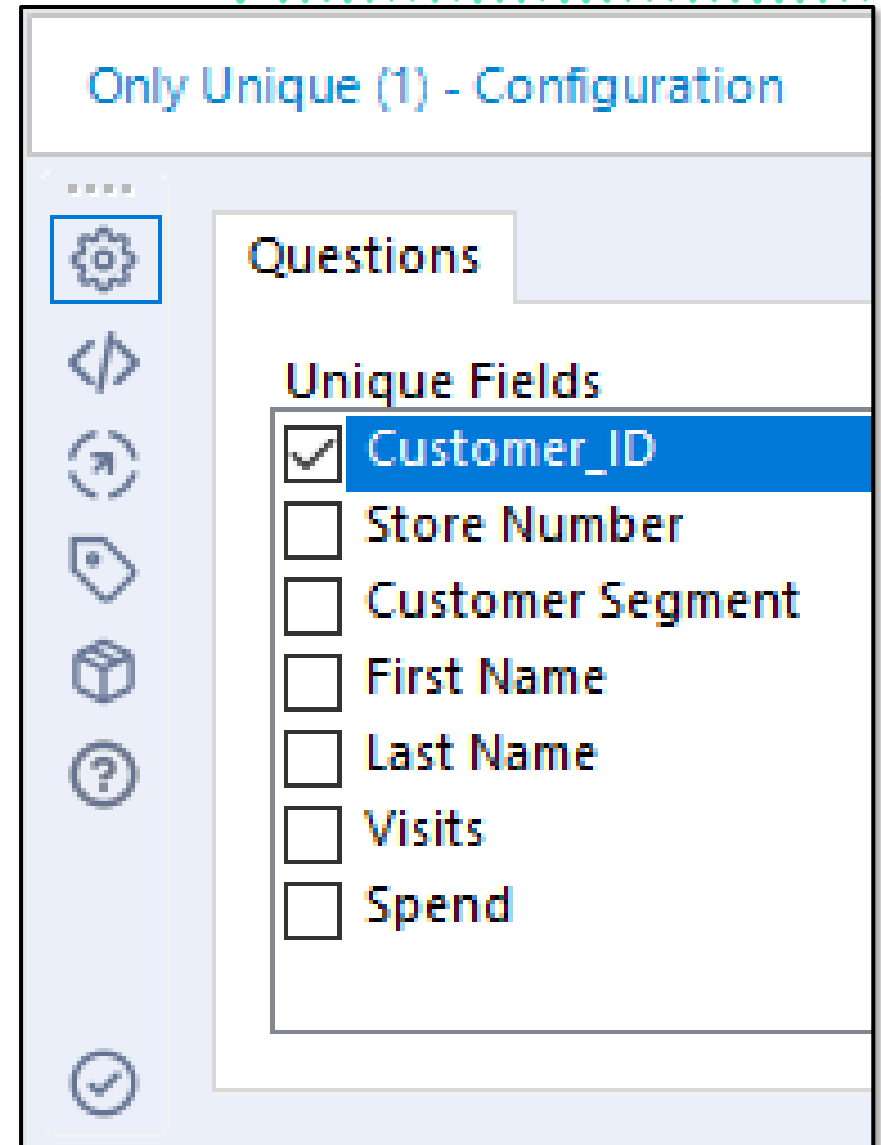
..\DEMO\WORKFLOW\ ONLY_UNIQUE.YXMD

INSTRUCTIONS

School is back in session and we've been asked to find where we might have travel shortages. Using the Travel Lane data it is your challenge to find Origin + Destination pairs that are serviced by only 1 carrier.

..... How do you find these under-served lanes?
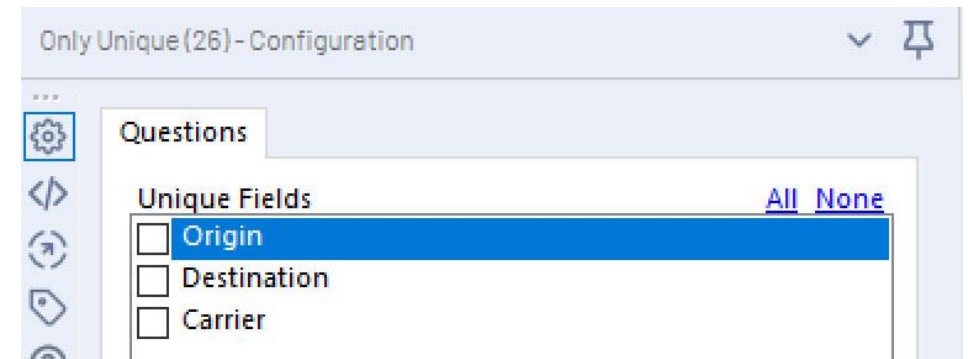
EXERCISE

BLOCKING TEST

- Test tool combined with a block until done tool.

- Prevents any records being passed down stream if one record fails the test.

- Configuration takes test formula expression and message formula expression.

- Static message has to be quoted.

Blocking Test (3) - Configuration

Questions

Test Expression (Expected to be true for all records)

[Age] < 120

Message Expression

"Out of range age"

Marquee Crew
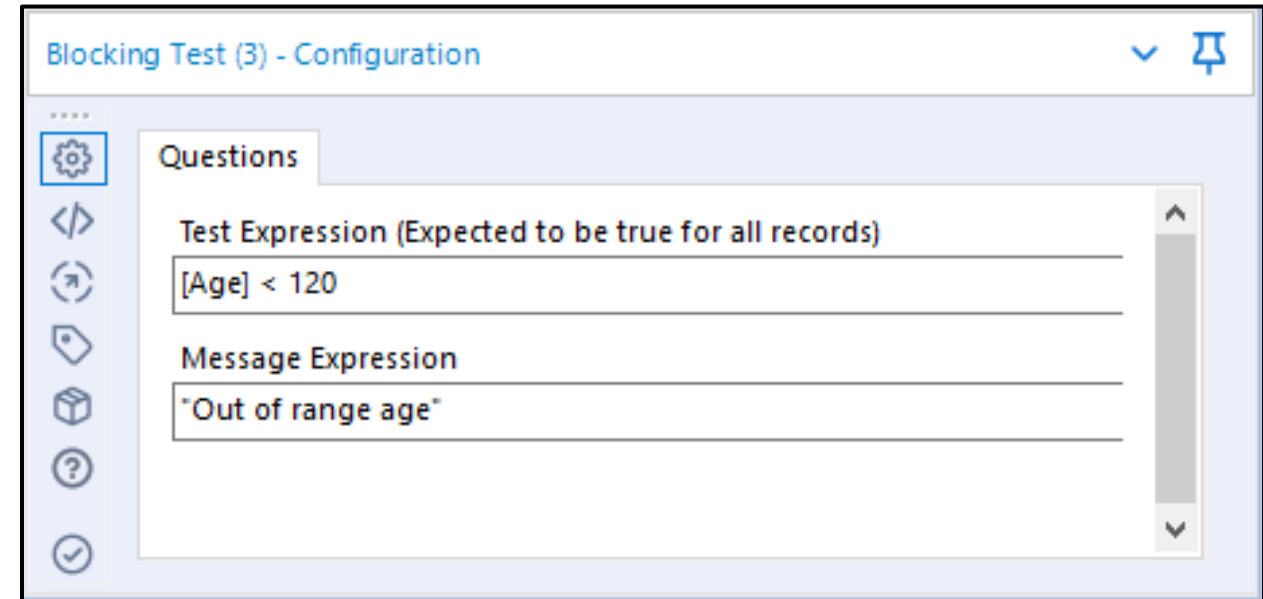
..\DEMO\WORKFLOW\ BLOCKING_TEST.YXMD

We're reading data from a CSV file which contains monthly dollar amounts. Before we output our data, we need to ensure a consistent format. We've found that when '$' signs are present, we have data quality issues.

..... How do you find unwanted '$' characters and stop the workflow before you output them?

Blocking Test (19) - Configuration

Questions

Test Expression (Expected to be true for all records)
!contains([value], '$')

Message Expression
'A dollar sign was found'
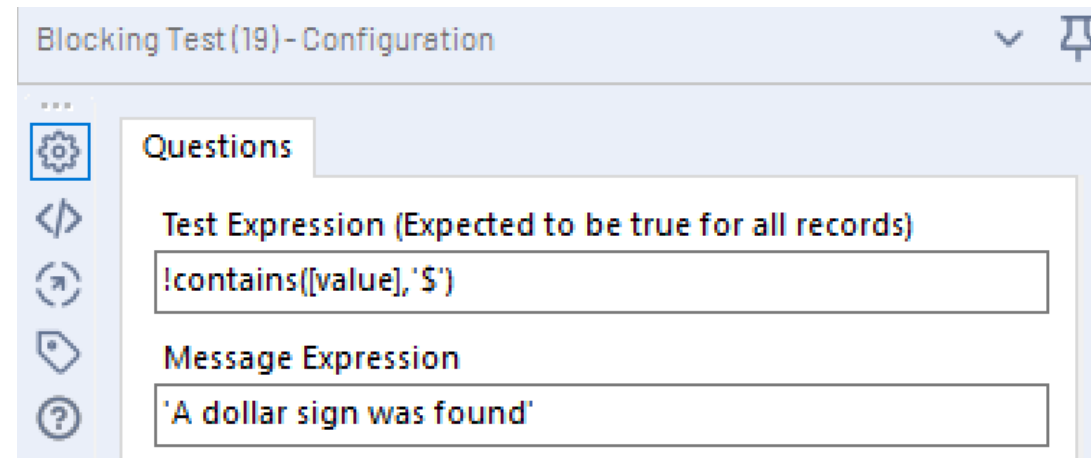
PARALLEL BLOCK UNTIL DONE

- Block until with two inputs.

- Writes all records from input 1 to output 1. All records from input 2 to output 2.

- Will not start writing data until it has received all upstream data.

- Will not start writing output 2 until it has finished writing output 1.
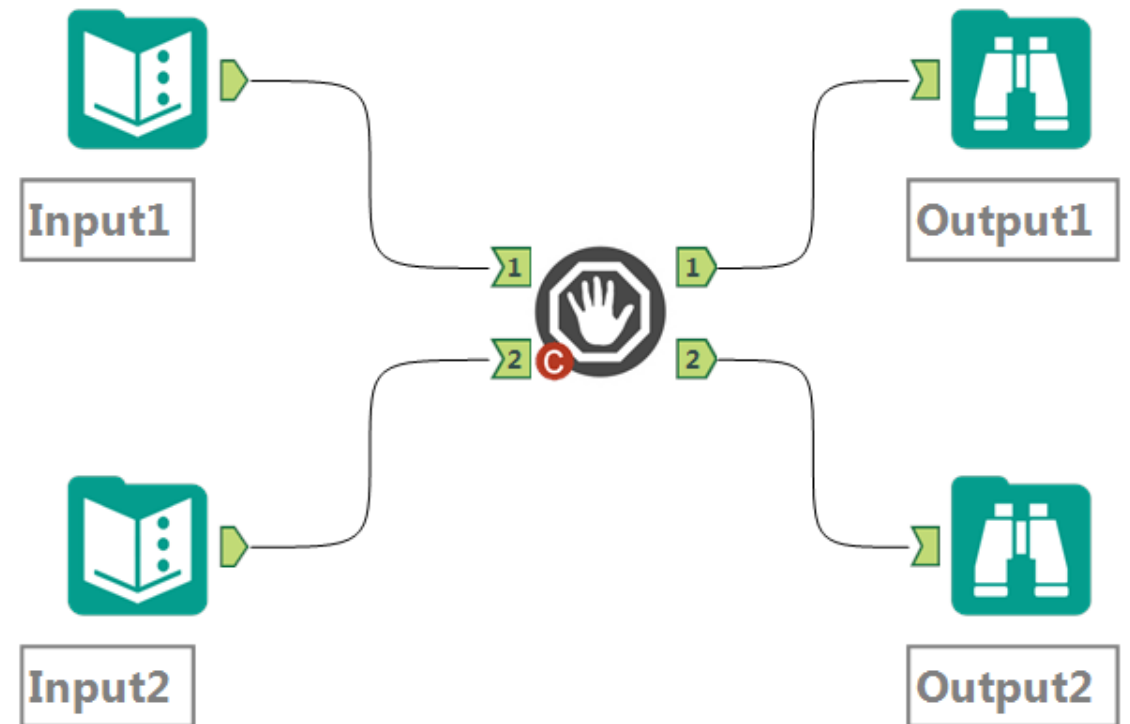
..\DEMO\WORKFLOW\ PARALLEL_BLOCKUNTILDONE.YXMD

INSTRUCTIONS

You want to read 2 data sources and then consolidate them into an Excel workbook. How do you write to different worksheets and prevent output error messages because the workbook is locked?

..... How do you control the flow of data to support 3 or more sets of data?

….. Think about having 10's or 100's of these to configure… Wait a second!

Parallel Block Until Done (25) - Configuration

Questions

This Tool Has No Configuration

Marquee Crew
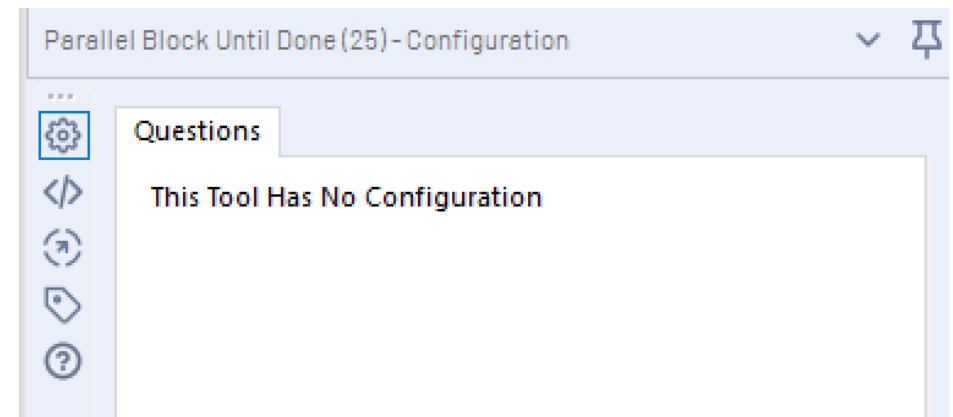
EXPECT EQUAL

- Compare two data streams for equality.

- Errors if data streams are different with a helpful error message about what difference it found.
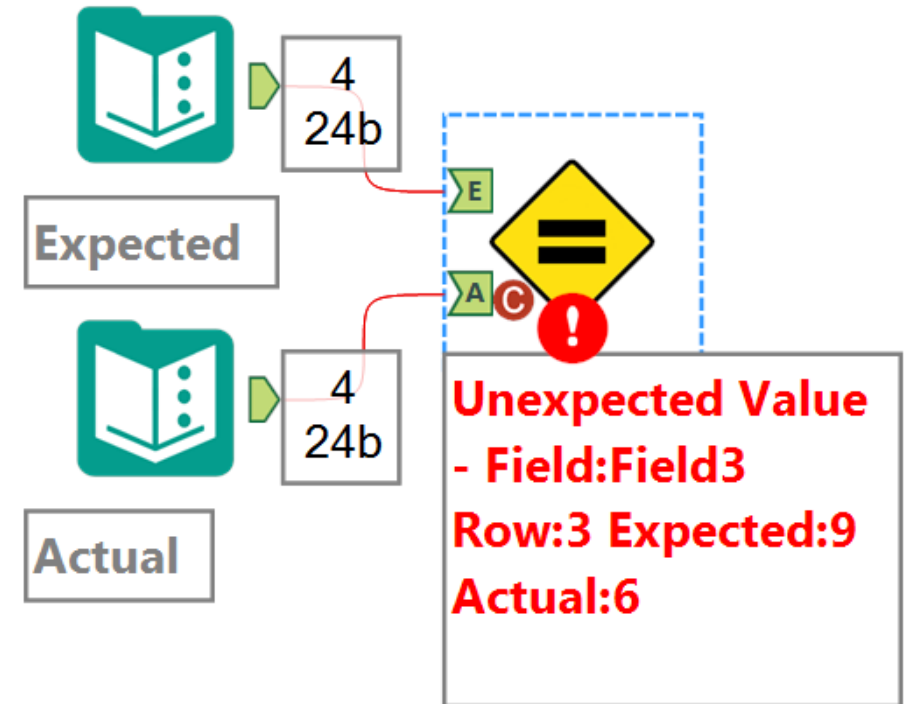
..\DEMO\WORKFLOW\ EXPECT_EQUALS.YXMD

INSTRUCTIONS

We've got two sets of Customer files that we've created by different methods. The first file is what we expect.

We've got to put a formula tool onto the actual customer data received to make sure that the output conforms to our expected format.

Did we get it right?

Do we need any adjustments?

Marquee Crew

ADD TOTALS

Adds total row and columns to numerical data.

Marquee Crew
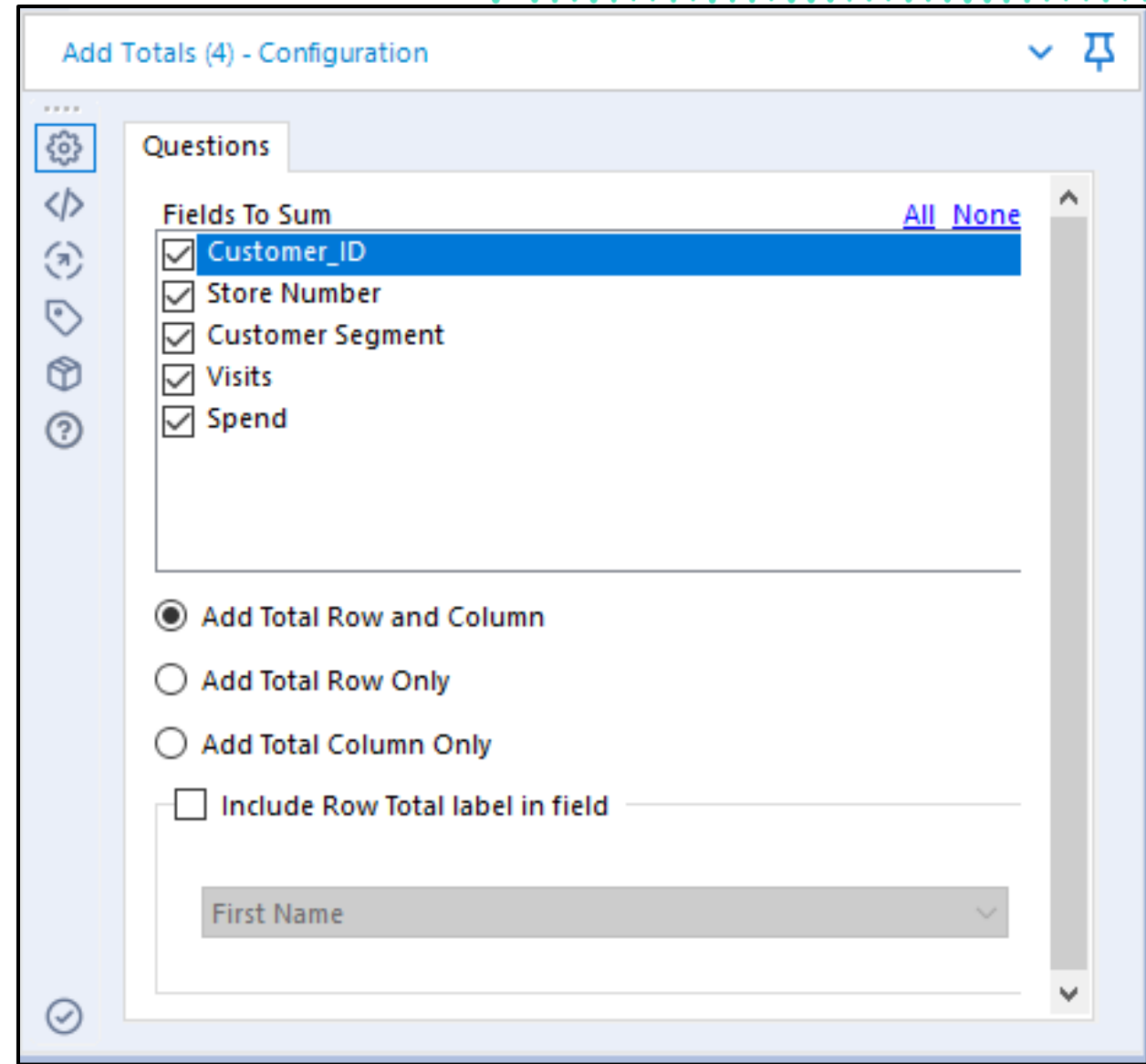
ADD TOTALS (INPUT)

Record	RecordId	Store	Data1	Data2	Data3	Data4	Data5
1	1	Store A	9	7	4	1	4
2	2	Store B	7	7	1	4	5
3	3	Store C	4	7	6	4	8
4	4	Store D	1	2	3	7	8
5	5	Store E	7	5	3	7	8

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ADD TOTALS (RESULT)

Record	RecordId	Store	Data1	Data2	Data3	Data4	Data5	Total
1	1	Store A	9	7	4	1	4	25
2	2	Store B	7	7	1	4	5	24
3	3	Store C	4	7	6	4	8	29
4	4	Store D	1	2	3	7	8	21
5	5	Store E	7	5	3	7	8	30
6	[Null]	[Null]	28	28	17	23	33	129

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..\DEMO\WORKFLOW\
ADD_TOTALS.YXMD

INSTRUCTIONS

You have store data and need to sum daily sales across the week. Then you want to add a row for summary across all stores by day.

..... How do you keep adding new data each day/month and add a total column that includes all new data?

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ENSURE FIELDS

- Ensure named fields are present on a data stream.

- If field already present it is left as is.

- If field missing it is added with a null value.

- Useful for macro building or with data with unknown/changing metainfo.

Ensure Fields (6) - Configuration

Questions

Enter the fields names to add, 1 per line

Field1
Field2

Field Type for new fields

Double

Marquee Crew
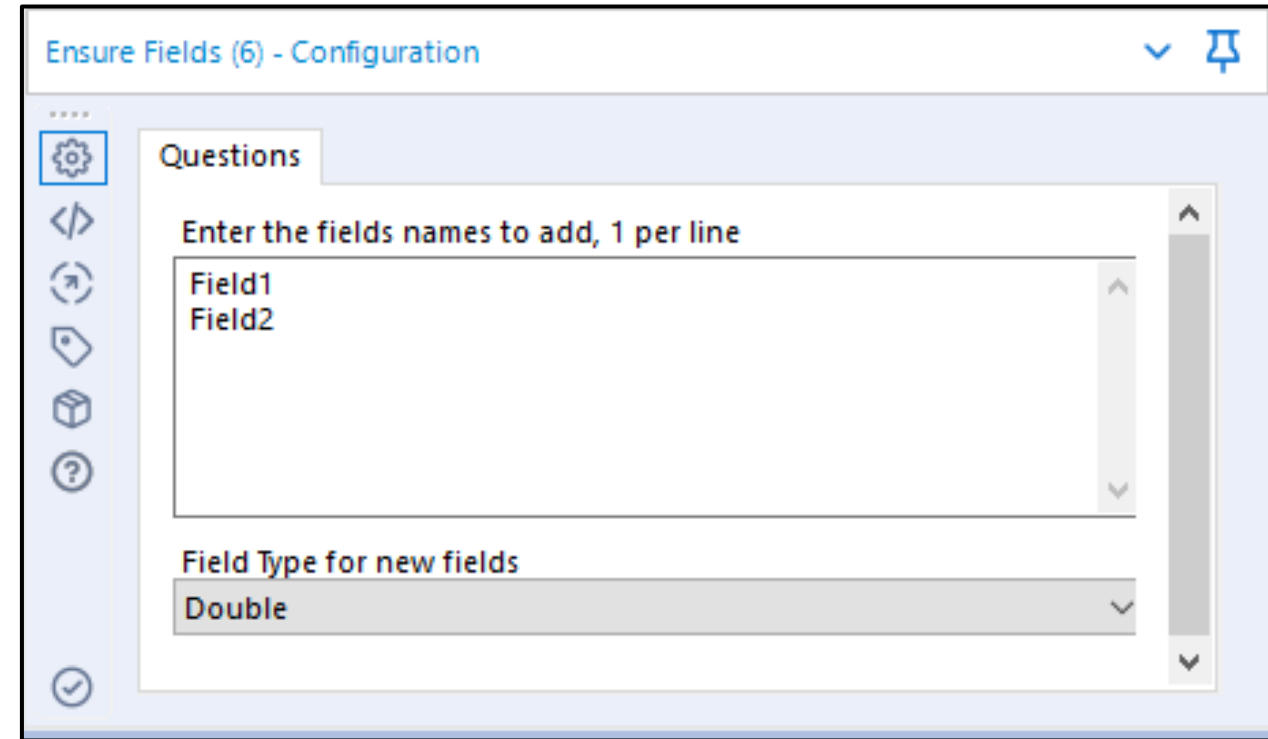
..\DEMO\WORKFLOW\ ENSURE_FIELDS.YXMD

You have created a macro (ensure_fields), but when it runs you realize that if data isn't present you don't get a 0 value for that day.

..... How do force a column to exist when there isn't any incoming data for it?

WILDCARD INPUT

Reads multiple files with a wildcard with incompatible metainfo.

Wildcard Input (7) - Configuration

Questions

File Browse with Wildcard

..\Data\ChangingInputData_*.yxdb

☑ Search Subdirectories

Output File Name as Field

No

Marquee Crew
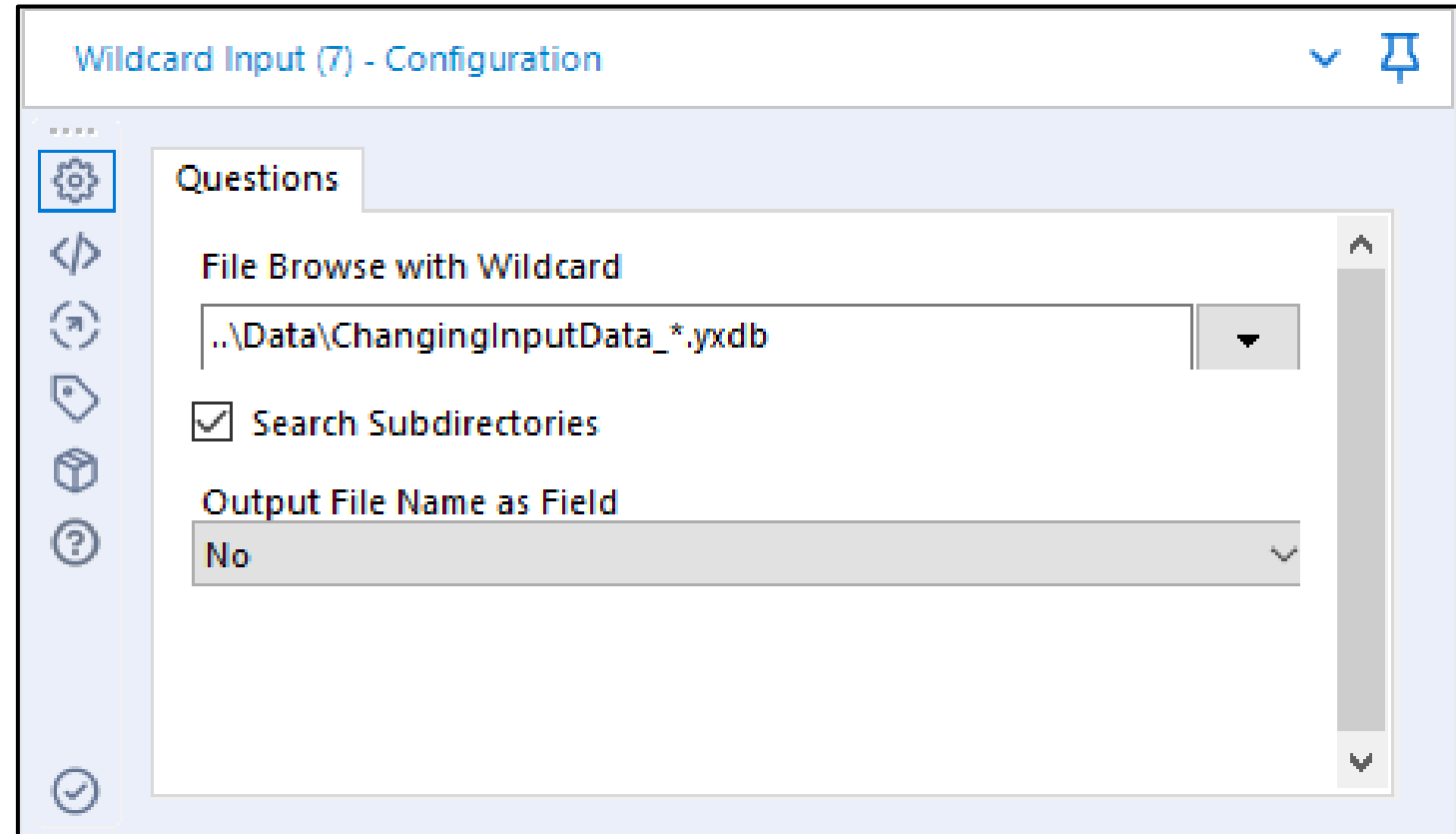
DYNAMIC FORMULA

- Allows configuration of a formula tool from a data stream.

- Select the columns which contain the various configuration options for a formula tool.

- One formula per row of incoming data.
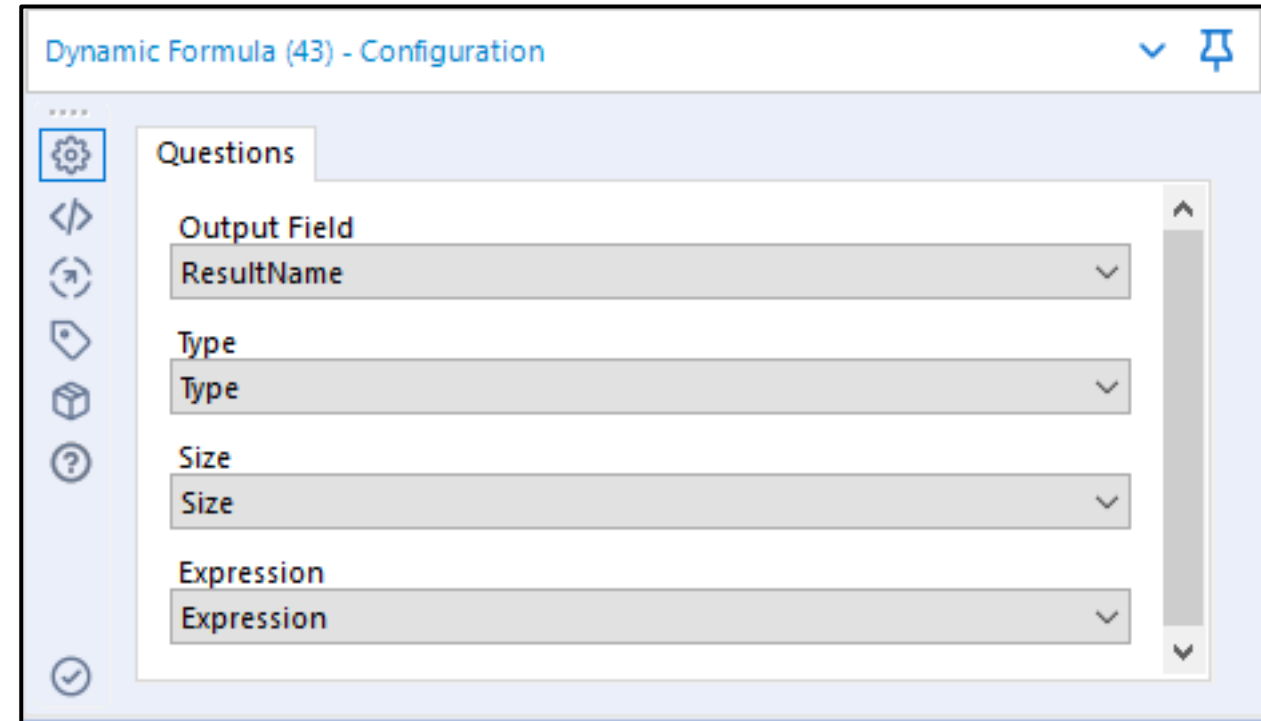
RUNNER TOOLS

RUNNER

- Runs another Alteryx workflow.

- Outputs its log and counts of Errors, Warnings and Field Conversion Errors

- If workflow succeeds outputs from S output.

- If workflow fails outputs from F output.

Runner (9) - Configuration

Questions

Alteryx Module/Macro/App to run

..\workflows\RunnerWorkflows\91_Sample_Workflow.yxmd
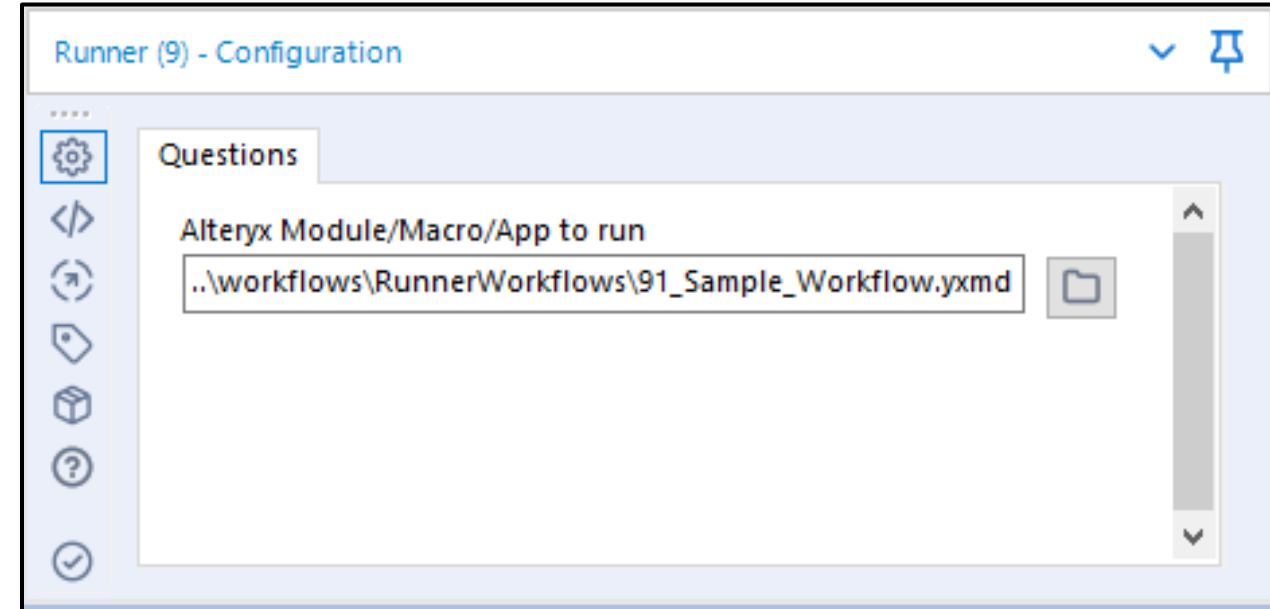
LIST RUNNER

- Takes a list of Alteryx workflows as input.

- Runs each of the workflows sequentially in order and outputs their logs, message counts and success status.

- Has option to stop if a workflow fails

Marquee Crew
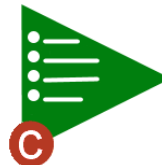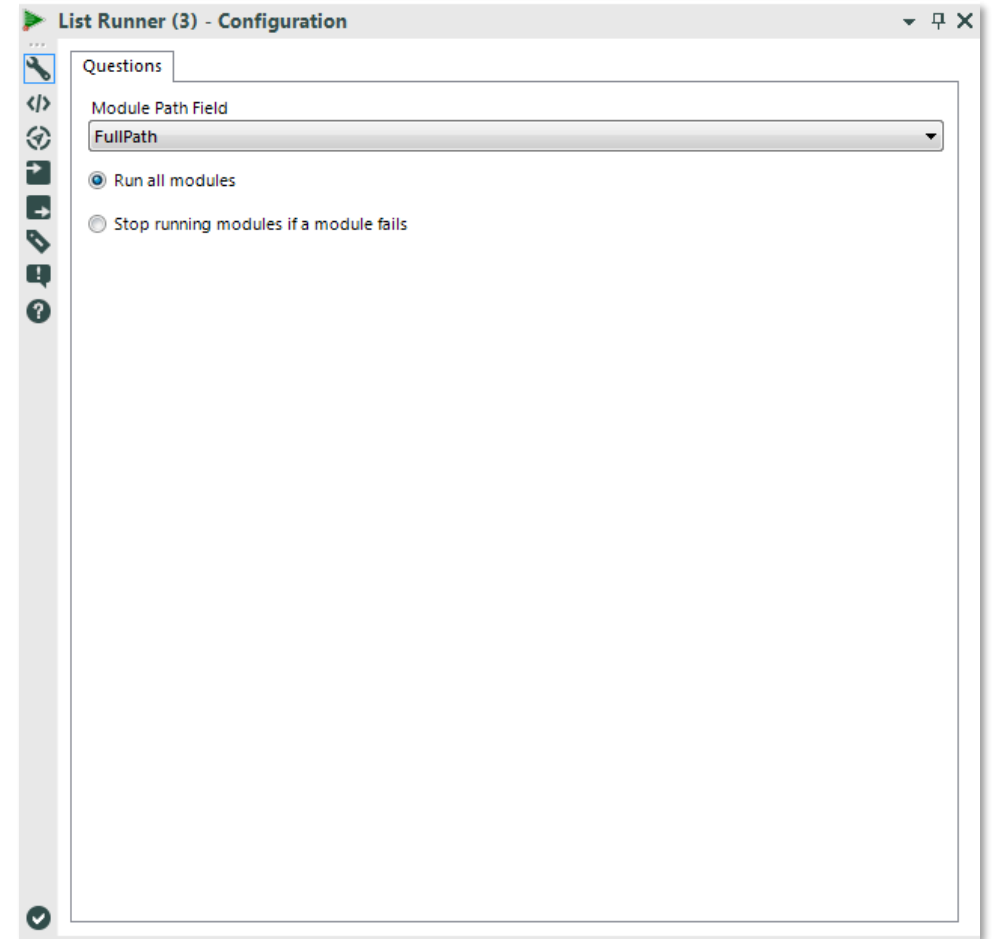
CONDITIONAL RUNNER

- Same as the Runner macro.

- But only runs the workflow if it receives data to its input.

- What the data is doesn't matter: zero rows the workflow is not run. Greater than zero rows the workflow runs.

- Chain Runner and Conditional Runner macros to create more complex error handling. e.g. send email on failure.

Conditional Runner (2) - Configuration

Questions

Alteryx Module/Macro/App to run

..\Workflows\RunnerWorkflows\92_Sample_Workflow.yxmd

09_RUNNER.YXMD

1. Use the Runner Tool to Run the Workflow "RunnerWorkflows\91_Sample_Workflow.yxmd". Does it run without error?

2. Use the Runner Tool to Run the Workflow "RunnerWorkflows\92_Sample_Workflow.yxmd". Does it run without error?

3. Use the Log Parser Tool to parse the log from "RunnerWorkflows\91_Sample_Workflow.yxmd" and find out which files were read from and written to.

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EXERCISE

#ALTERYX19

10_LIST_RUNNER.YXMD

- Use the List Runner tool to run all the workflows in the folder "RunnerWorkflows"

- Use the log parser to find all files that are read and written by each workflow

- If a workflow fails stop later workflows from running

List Runner (33) - Configuration

Questions

Module Path Field
FullPath

- Run all modules
- Stop running modules if a module fails

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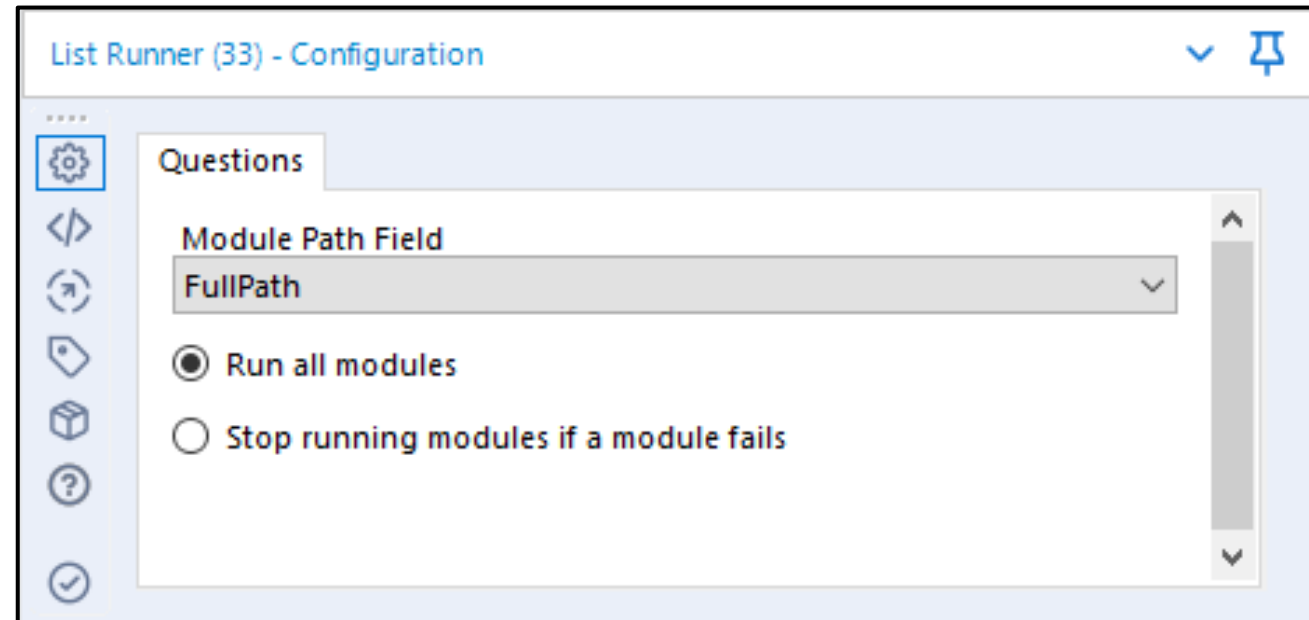
11_CONDITIONAL_RUNNER.YXMD

1. Use the Runner Tool to run workflow "RunnerWorkflows\91_Sample_Workflow.yxmd"

2. Use the Conditional Runner to run workflow RunnerWorkflows\92_Sample_Workflow.yxmd if 91 succeeds

3. Use the Conditional Runner to run workflow RunnerWorkflows\93_Sample_Workflow.yxmd if 92 succeeds

4. If Use the Conditional Runner to run workflow RunnerWorkflows\92_Sample_Workflow.yxmd fails write out a message to the log of this workflow

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CLOSING THOUGHTS

- Server install

- Sharing workflows with others

- Samples

- Test Tools

- Be a part of the CReW! Join today!

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QUESTIONS?

CRW — Chaos Reigns Within
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THANK YOU

PRESENTED BY   Mark Frisch

Chaos Reigns Within
A FREE-FOR-ALL MACRO PACK
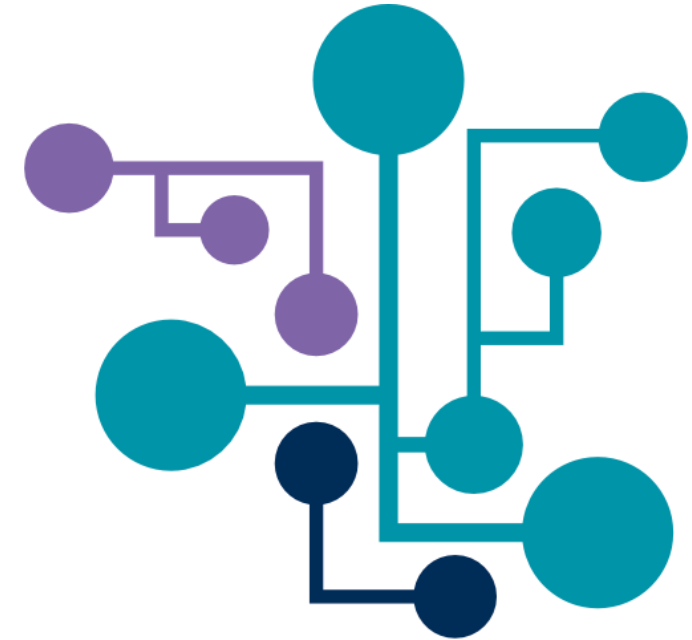
Marquee Crew

EXERCISES

01_ONLY_UNIQUE.YXMD

INSTRUCTIONS

1. Use the **ONLY UNIQUE** tool to work out what is different in the duplicate records

2. Does it affect the result in this case?

3. Bonus - Can you use a second Only Unique tool (with a different configuration) to prove your answer to 1?

Only Unique (1) - Configuration

Questions

Unique Fields

- ☑ Customer_ID
- ☐ Store Number
- ☐ Customer Segment
- ☐ First Name
- ☐ Last Name
- ☐ Visits
- ☐ Spend

Chaos Reigns Within
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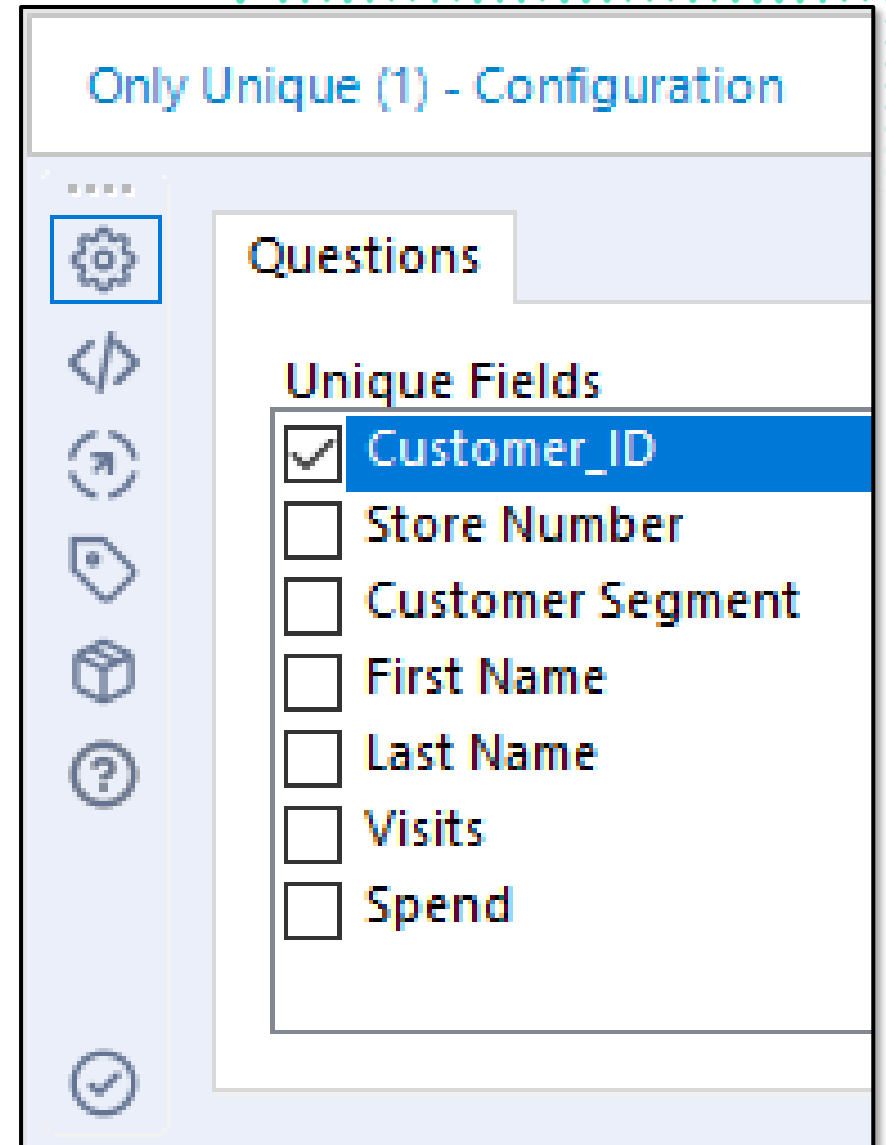
02_BLOCKING_TEST.YXMD

- Change the test for unique Customer_ID so no records get written to the database if it fails. Replace the Unique and Expect Zero with a Summarize and Blocking Test.

- Bonus - How informative can you make the error message?

Blocking Test (3) - Configuration

Questions

Test Expression (Expected to be true for all records)
[Age] < 120

Message Expression
"Out of range age"

Marquee Crew
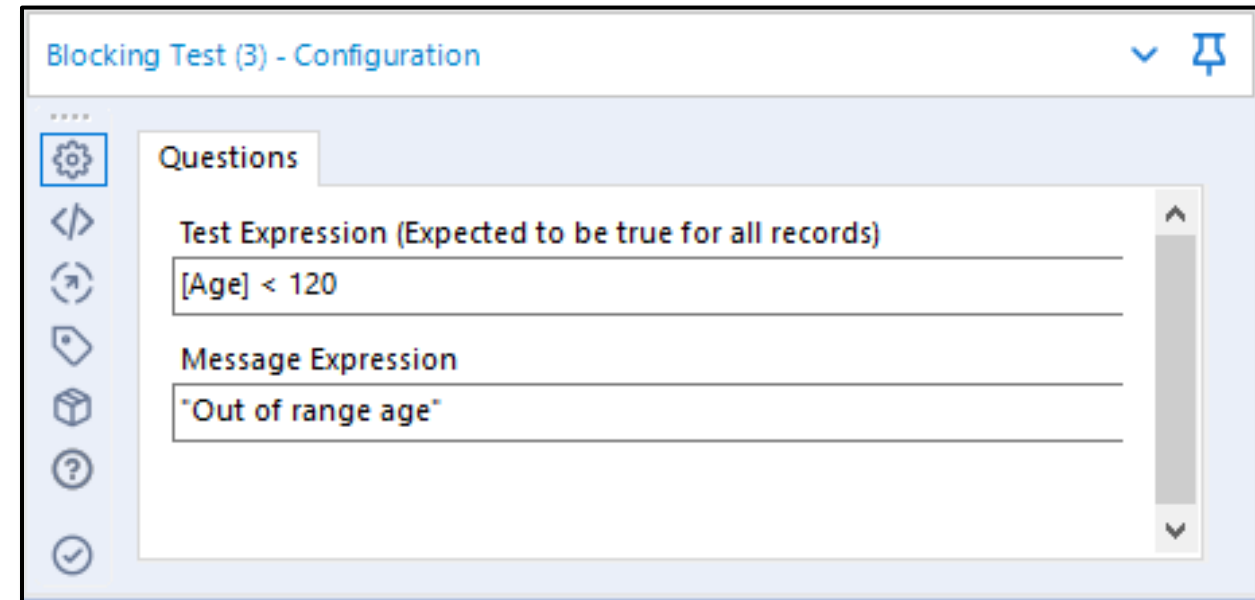
INSTRUCTIONS

- Make the workflow work and write out to excel

- Make the workflow write out the excel worksheets in the order: Duplicates, FullData, Summary
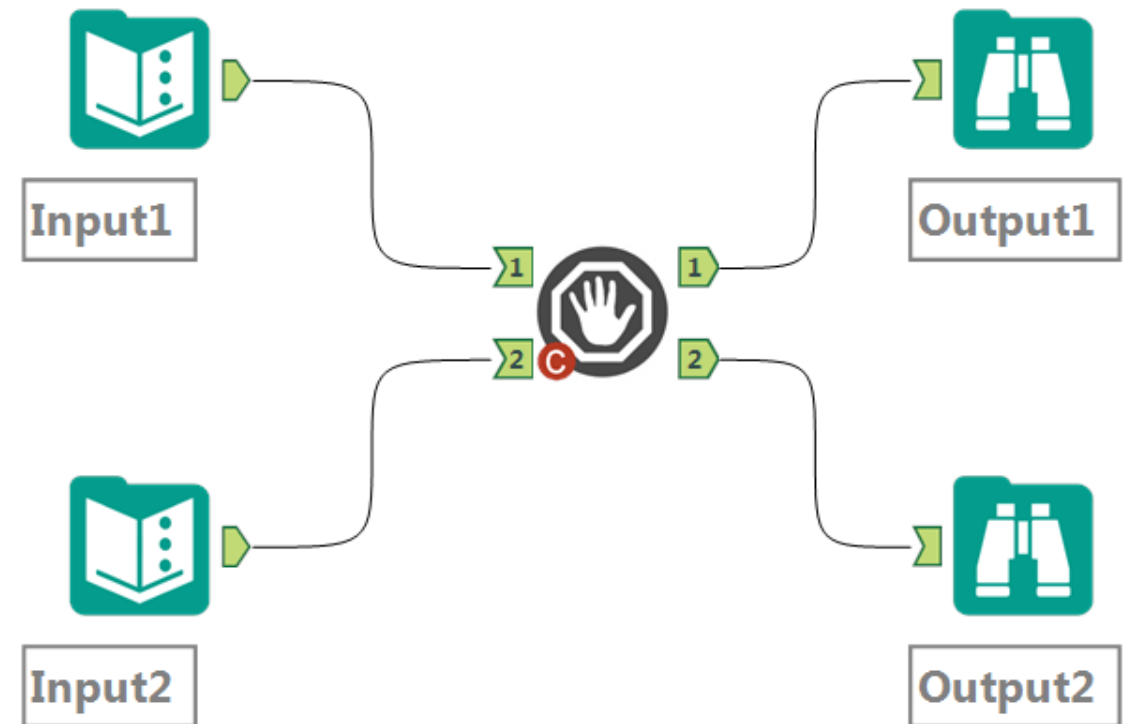
04_EXPECT_EQUAL.YXMD

- 1-4. Use the Expect Equal Tool to find the differences between the Expected and Actual Data. Adjust the Actual Data in the Text Input or with additional tools to make the Expect Equals tool not error.

- 5. The Expect Equal Tool does not error for this case. Why should it?

- 6. BONUS - Adjust the macro to make it error for case 5.

Expected

Actual

4
24b

4
24b

Unexpected Value
- Field:Field3
Row:3 Expected:9
Actual:6

Marquee Crew
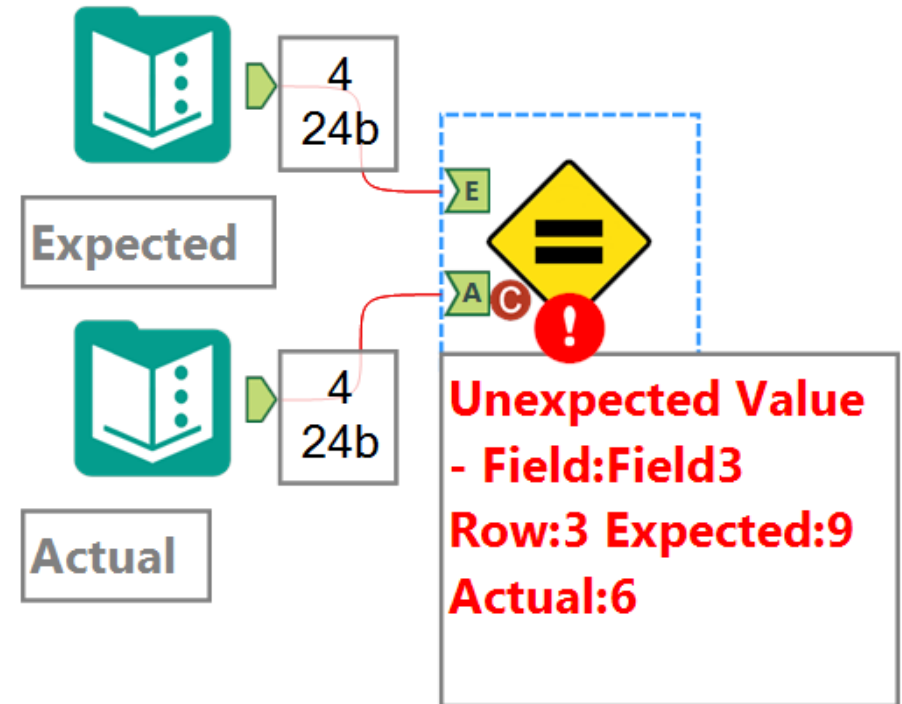
05_ADD_TOTALS.YXMD

INSTRUCTIONS

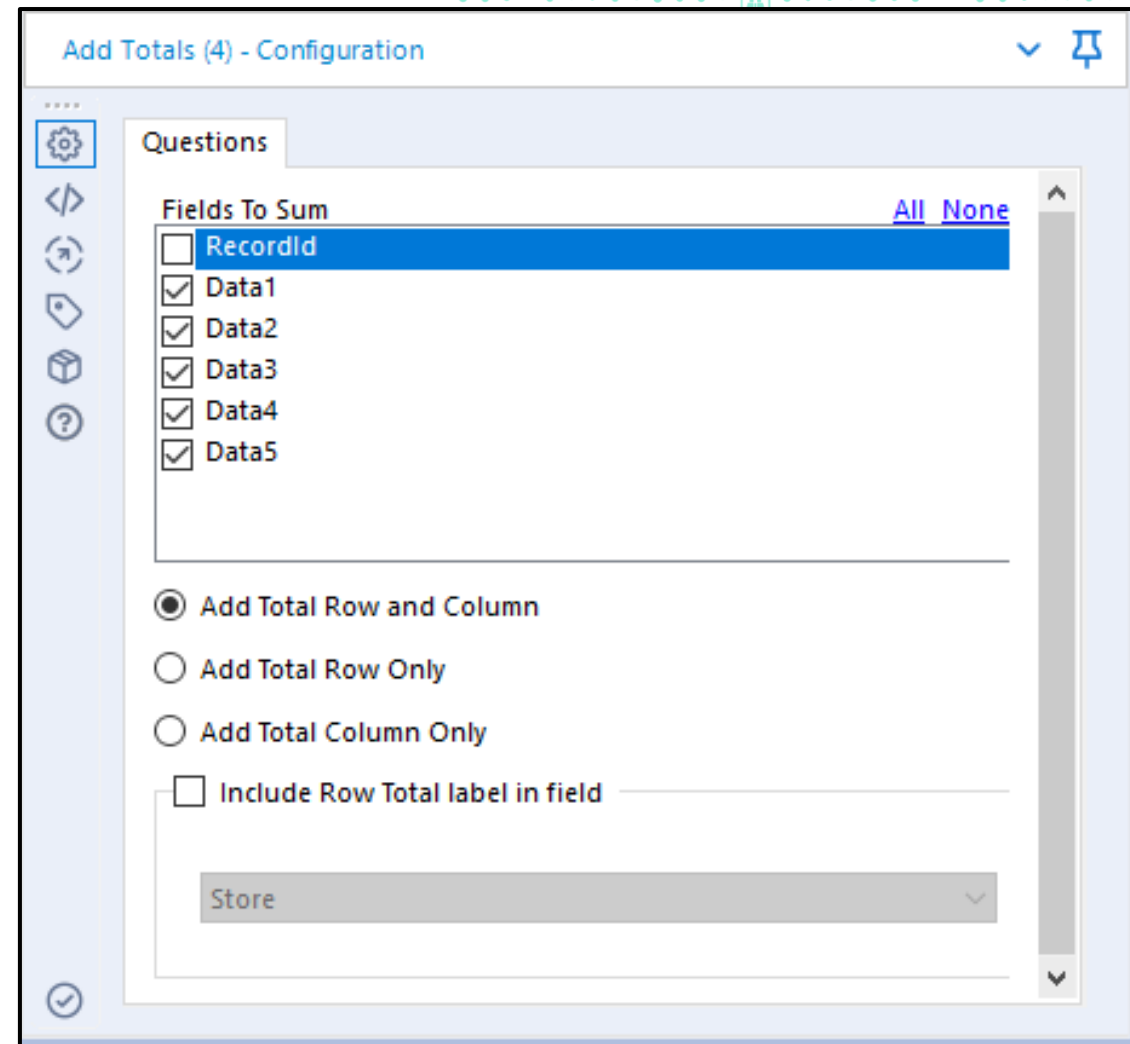- Add Total row and Column for Data1, Data2, Data3, Data4 and Data5

- Include the row label Total in the Store Column

- Add only a total row for only columns Data1 and Data2 (including the row label in the Store column again)

- Bonus - Can you add the row total label to the RecordId column? (Hint - the label is text)

Add Totals (4) - Configuration

Questions

Fields To Sum   All None

- [ ] RecordId
- [x] Data1
- [x] Data2
- [x] Data3
- [x] Data4
- [x] Data5

- (•) Add Total Row and Column
- ( ) Add Total Row Only
- ( ) Add Total Column Only
- [ ] Include Row Total label in field

Store

EXERCISE

Marquee Crew

06_ENSURE_FIELDS.YXMD

- ChangingInputData will have a random selection of Data Fields each time it is regenerated.

- It will have a subset (or all) of fields Data1, Data2, Data3, Data4, Data5 which are Int64s. Plus a RecordId field

1. Create a new column total which is the total of which ever Data1, Data2, Data3, Data4, Data5 fields are present, using the Ensure Fields and the formula tools. (The problem has already been solved using other tools below)

2. Check the check box in the Regenerate data macro to change the incoming fields and make sure your solution still works.

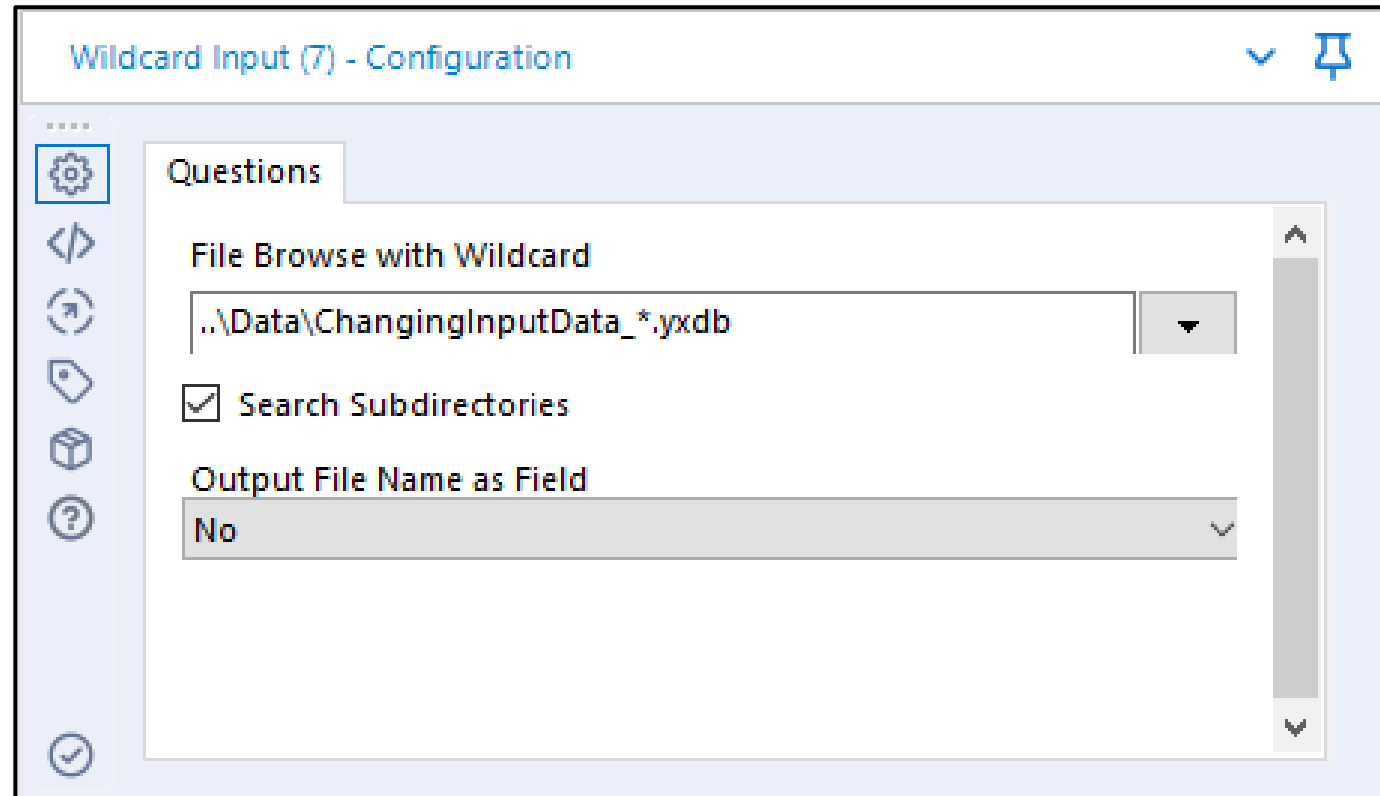3. Bonus - Can you remove the extra Data fields that you added? Which method has the faster runtime?

07_WILDCARD_INPUT.YXMD

1. Observe that the workflow does not read in all of the data files because they have different schemas

2. Use the wildcard input to read all of the ChangingInputData_*.yxdb files and calculate the sum of the 5 data columns across all of the files.
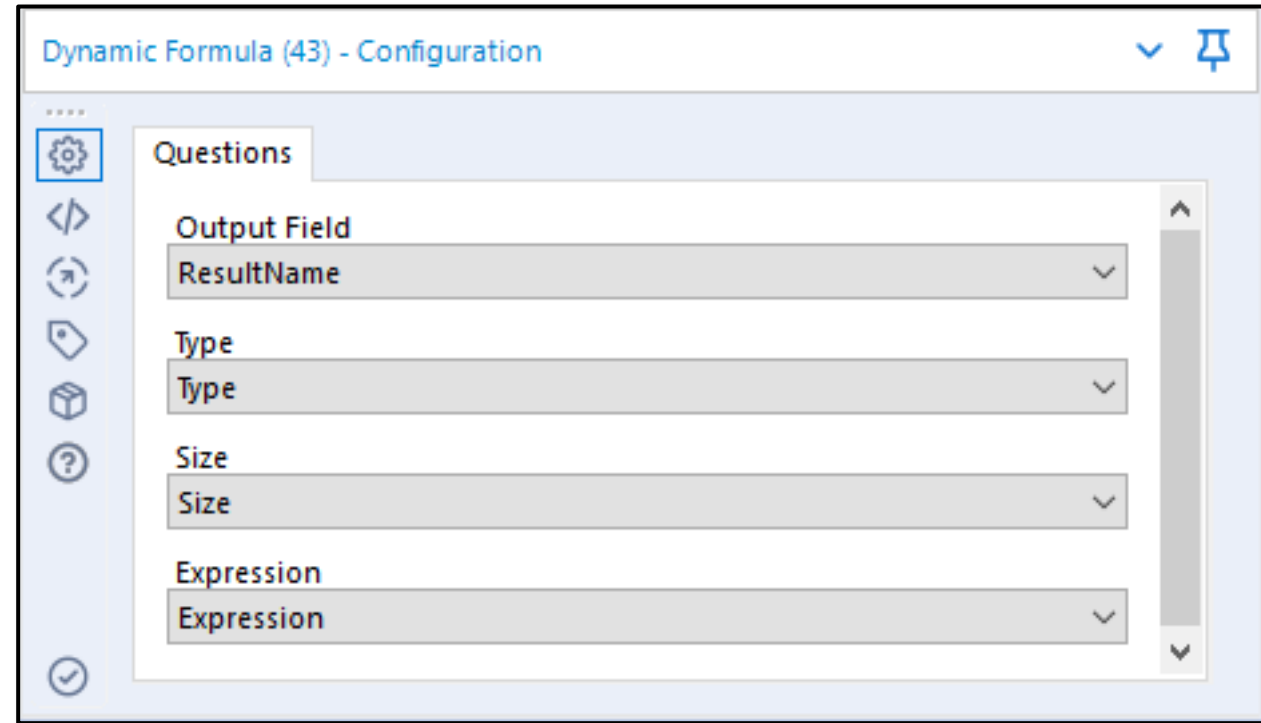
Wildcard Input (7) - Configuration

Questions

File Browse with Wildcard

..\Data\ChangingInputData_*.yxdb

☑ Search Subdirectories

Output File Name as Field

No

Marquee Crew

08_DYNAMIC_FORMULA.YXMD

Calculate Result1 - Result20 for the InputData

ATLANTA ALTERYX USER GROUP

Q3 2020 | 7.23.2020

*This meeting is being recorded and will be shared on the User Group page.

Happy Hour

Will start immediately once UG meeting concludes! Come hangout with us!

To join:
- Click on the "Happy Hour" URL to right in the "Resources" widget.
- Or type in URL: https://bit.ly/2ZTxVRf

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