# ALTERYX PROJECT REPORT

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## Problem statement

Alteryx Weekly Challenge #298

For this challenge, I will be hosting the perfect Christmas night! I've invited friends over to eat cookies, listen to music, and watch a movie!

This is a two-part challenge: First I must choose each item (type of cookie, music and movie) based on a specific criterion that are in the container boxes below (I have opinionated friends), then I must use my 3 selections to find the key to the treasure box. The treasure box holds a special gift from your Weekly Challenge team!

(Hint: Label your final selection column as "Answer")

Dataset: Click here





### **Tasks**

#### • TASK 1:

Choose the cookie recipe that makes the most cookies!

- □ 1. You have 1000 grams of butter and 1000 grams of sugar.
- □ 2. The cookies recipes require the ingredients as listed.
- □ 3. You are not limited by any of the other ingredients.

#### • TASK 2:

Choose a Christmas playlist for your guests while you eat cookies!

- 1. Assume each song is 3 minutes and that your total music playtime will be 45 minutes this determines how many songs you have on the list!
- 2. Every song must be a -9 or lower in loudness (ex. -15 would be a very quiet song)
- 3. Eric wants all the minor songs and Matthew wants songs in F major.
- 4.Thalita loves Dean Martin!
- 5. Put the songs in order of loudness, so the music builds as a transition to the movie. The title of the last song is your "answer"!

#### • TASK 3:

Movie Time!

- ☐ You only want a movie that was released in the theatre
- □ Nicole doesn't want to watch an animated movie.
- Ryan is feeling nostalgic and wants to watch something from the 80's or 90's.
- ☐ It must be the top-rated movie of the year it debuted.
- The movie with the longest run time in the Comedy genre is your "answer"!

#### TASK 4 :

After all that hard work to create the Best Christmas Evening Ever, use your three answers to find the key to the treasure box!

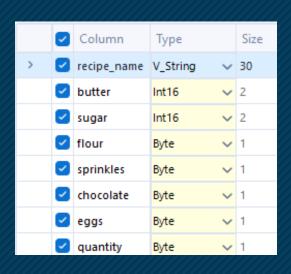
- ☐ Use the provided lookup table to "find and replace" your answers to produce three sets of scrambled letters and numbers (hint: label column as "Answer").
- ☐ Concatenate the key and add to the provided formula tool.
- Once you run the key through the formula tool, you may open the treasure box and put the link in the tool configuration!





### **Workflow Steps:**

1. **Data Quality Check:** Started by ensuring data integrity using the **Select Tool** to verify correct data types & Filtered unnecessary columns using **Data Cleansing Tool** 



Record	recipe_name	butter	sugar	flour	sprinkles	chocolate	eggs	quantity	F9	F10	F11	F12	F13	F14	F15	F16	F17	F18	F19
1	Sugar Twinkle	225	250	150	50	0	2	16	[Null]										
2	Chocolate Sprinkle	250	300	150	65	10	3	14	[Null]										
3	Holiday Macaroon	175	200	225	0	0	2	10	[Null]										
4	Christmas Chocolate Shortbread	250	225	150	25	25	0	12	[Null]										
5	Unique Gingerbread Snowflakes	275	100	200	0	0	3	12	[Null]										



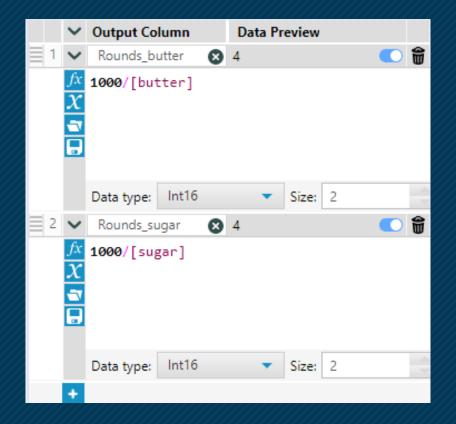
Record	recipe_name	butter	sugar	flour	sprinkles	chocolate	eggs	quantity
	1 Christmas Chocolate Shortbread	250	225	150	25	25	0	12
	2 Unique Gingerbread Snowflakes	275	100	200	0	0	3	12
	3 Chocolate Sprinkle	250	300	150	65	10	3	14
	4 Sugar Twinkle	225	250	150	50	0	2	16
	5 Holiday Macaroon	175	200	225	0	0	2	10





### **Workflow Steps:**

2. **Calculations with Formulas:** Utilized the Formula tool to calculate the number of rounds possible with available butter and sugar

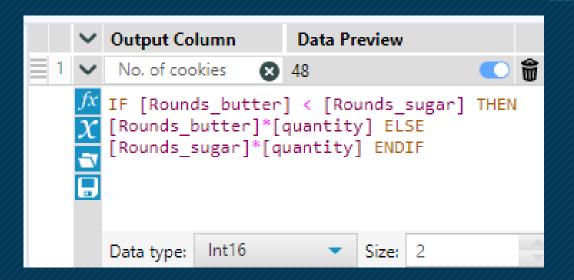






### **Workflow Steps:**

3. **Optimizing Cookie Yields:** Employed the following formula in the Formula Tool to determine the exact number of cookies each recipe could produce from available ingredients:

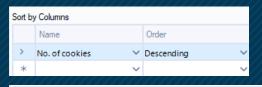






#### **Workflow Steps:**

4. **Sorting and Selection:** Sorted the results in descending order of cookies using the Sort tool. Extracted the top row with the highest cookie yield using the Sample tool.



Record	recipe_name	butter	sugar	flour	sprinkles	chocolate	eggs	quantity	Rounds_butter	Rounds_sugar	No. of cookies
1	Sugar Twinkle	225	250	150	50	OK: 100.00%	2	16	4	4	64
2	Holiday Macaroon	175	200	225	0	0	2	10	6	5	50
3	Christmas Chocolate Shortbread	250	225	150	25	25	0	12	4	4	48
4	Unique Gingerbread Snowflakes	275	100	200	0	0	3	12	4	10	48
5	Chocolate Sprinkle	250	300	150	65	10	3	14	4	3	42

l	Sample Method									
l	<ul><li>First N rows</li></ul>									
Ç	Last N rows									
6	Skip 1st N rows									
8	1 of every N rows									
2	1 in N chance to include each row									
S	First N% of rows									
	N = 1 ~									

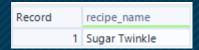
Record	recipe_name	butter	sugar	flour	sprinkles	chocolate	eggs	quantity	Rounds_butter	Rounds_sugar	No. of cookies
1	Sugar Twinkle	225	250	150	50	0	2	16	4	4	64

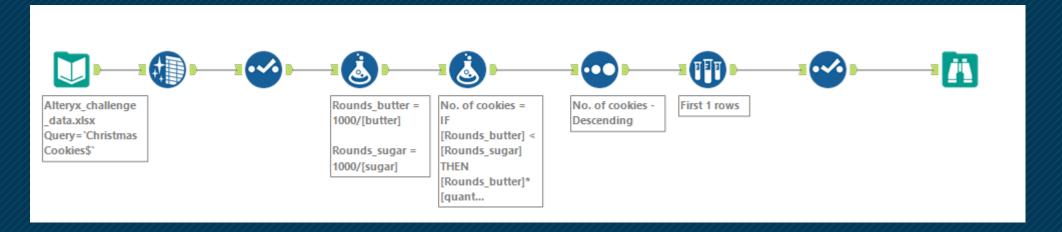




### **Workflow Steps:**

**Result:** After meticulous calculations and optimization, the winning recipe for the most cookies was "Sugar Twinkle" with an impressive yield of 64 cookies!



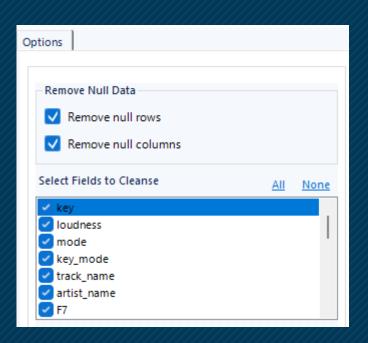


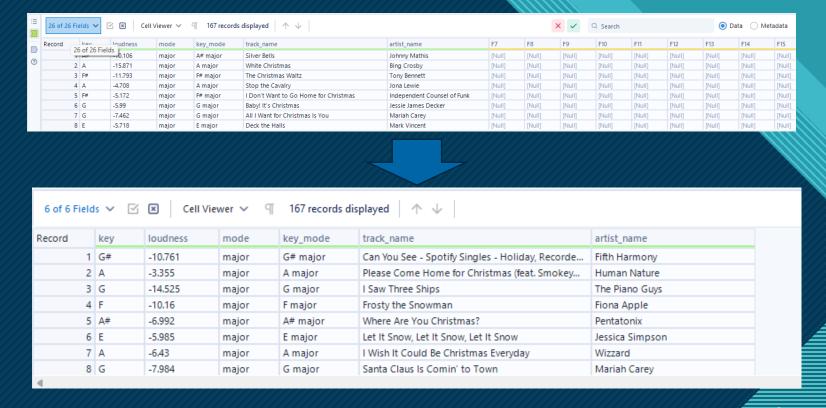




#### **Workflow Steps:**

1. **Data Quality Check:** Filtered unnecessary columns using **Data Cleansing Tool &** Verified the dataset's integrity using the **Select Tool** to ensure correct data types.









#### **Workflow Steps:**

2. **Filtering Relevant Records:** Used the Filter Tool to narrow down the dataset with the following criteria.

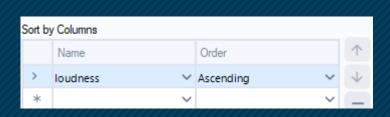


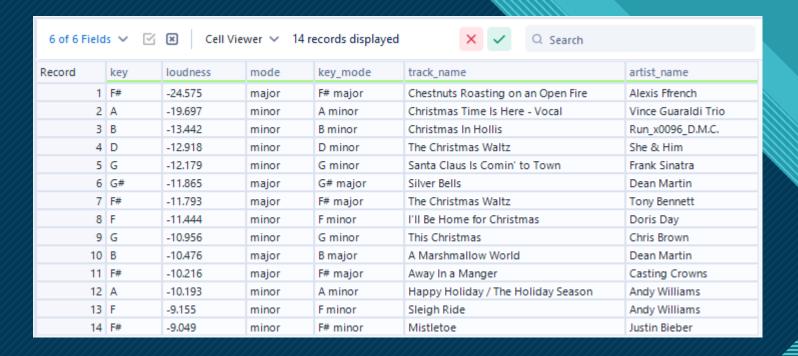
6 of 6 Field	6 of 6 Fields V 🗹 🗷 Cell Viewer V 14 records displayed X 🗸 Q Search										
Record	key	loudness mode		key_mode	track_name	artist_name					
1	F	-9.155	minor	Fminor	Sleigh Ride	Andy Williams					
2	G	-10.956	minor	G minor	This Christmas	Chris Brown					
3	3 F -11.444		minor	Fminor	I'll Be Home for Christmas	Doris Day					
4	D	D -12.918		D minor	The Christmas Waltz	She & Him					
5	G	-12.179	minor	G minor	Santa Claus Is Comin' to Town	Frank Sinatra					
6	В	-13.442	minor	B minor	Christmas In Hollis	Run_x0096_D.M.C.					
7	Α	-19.697	minor	A minor	Christmas Time Is Here - Vocal	Vince Guaraldi Trio					
8	F#	-10.216	major	F# major	Away In a Manger	Casting Crowns					
9	F#	-9.049	minor	F# minor	Mistletoe	Justin Bieber					
10	Α	-10.193	minor	A minor	Happy Holiday / The Holiday Season	Andy Williams					
11	G#	-11.865	major	G# major	Silver Bells	Dean Martin					
12	В	-10.476	major	B major	A Marshmallow World	Dean Martin					
13	F#	-11.793	major	F# major	The Christmas Waltz	Tony Bennett					
14	F#	-24.575	major	F# major	Chestnuts Roasting on an Open Fire	Alexis Ffrench					



#### **Workflow Steps:**

3. **Sorting Records:** Employed the **Sort Tool** to arrange records by loudness in increasing order.

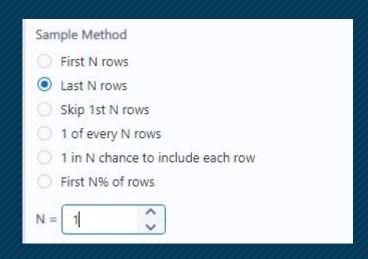


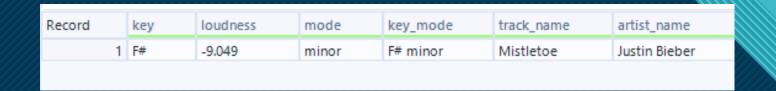




#### **Workflow Steps:**

4. **Selecting the Loudest Track:** Utilized the Sample Tool to pick the 15th record, which happened to be:

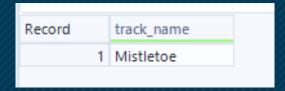


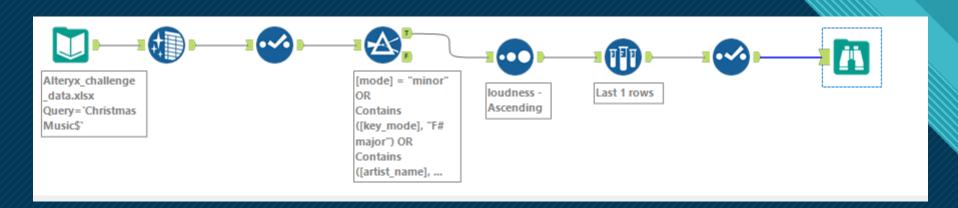




#### **Workflow Steps:**

**Results:** With careful selection and analysis, the playlist gained its climax with Justin Bieber's "Mistletoe" as the loudest, setting the perfect festive mood!

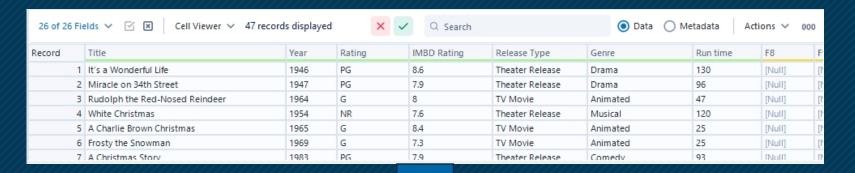




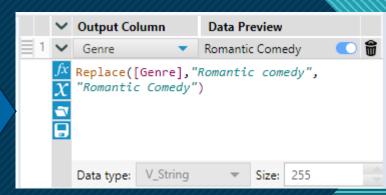


#### **Workflow Steps:**

1. **Data Cleaning:** Identified and corrected a data entry issue in the "Genre" field using the Formula tool.



7 of 7 Field	7 of 7 Fields V 🗹 🗷 Cell Viewer V 47 records displayed X 🗸 Q Search 🔘 Data 🔾 Metadata Actio										
Record	Title	Year	Rating	IMBD Rating	Release Type	Genre	Run time				
1	Four Christmases	2008	PG-13	5.7	Theater Release	Romantic comedy	88				
2	The Little Drummer Boy	1986	Not Rated	7.1	TV Movie	Animated	25				
3	A Christmas Carol	2009	PG	6.8	Theater Release	Animated	96				
4	Dr. Seuss' How the Grinch Stole Christmas	2000	PG	8.4	Theater Release	Family	104				
5	Silent Night	2002	PG	7.6	TV Movie	Drama	100				
6	White Christmas	1954	NR	7.6	Theater Release	Musical	120				
7	A Charlie Brown Christmas	1965	G	8.4	TV Movie	Animated	25				

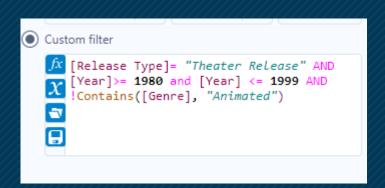


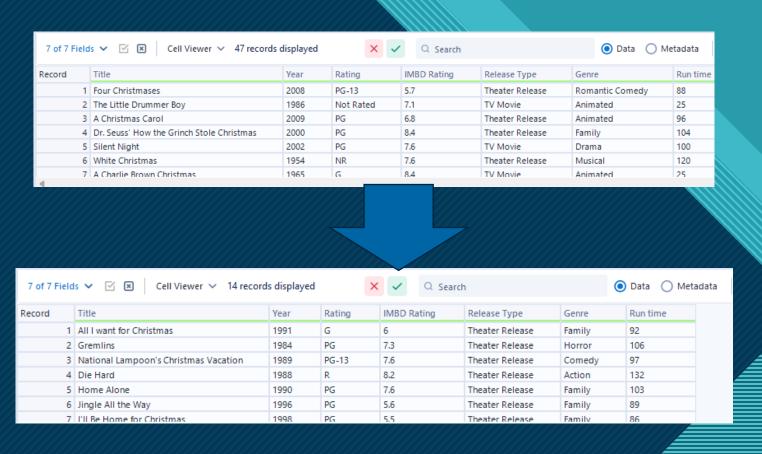




#### **Workflow Steps:**

2. **Filtering Data:** Applied the Filter Data tool to exclude records that didn't meet the specified criterions.



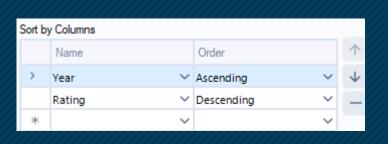


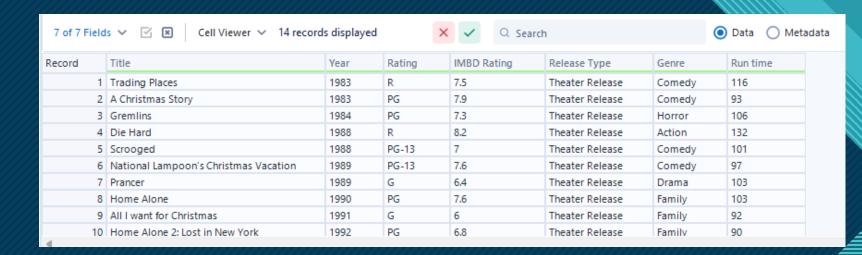




#### **Workflow Steps:**

3. **Sorting Data:** Used the Sort tool to arrange the data. Sorted the "Year" field in <u>ascending order</u> and the "Rating" field in <u>descending order</u>.



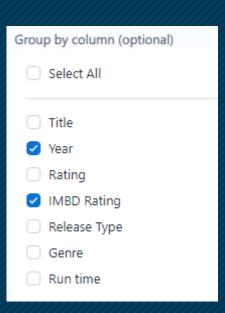






### **Workflow Steps:**

4. **Sampling and Grouping:** Used the Sample tool to group the data by the "Year" field. Extracted the highest-rated film for each year using the Sample tool.



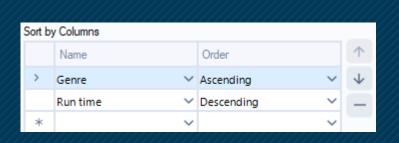
7 of 7 Field	7 of 7 Fields ✓ ☑ ☑ Cell Viewer ✓ 14 records displayed X ✓ Q Search										
Record	Title	Year	Rating	IMBD Rating	Release Type	Genre	Run time				
1	Scrooged	1988	PG-13	7	Theater Release	Comedy	101				
2	The Santa Clause	1994	PG	6.5	Theater Release	Family	97				
3	Home Alone 2: Lost in New York	1992	PG	6.8	Theater Release	Family	90				
4	The Muppet Christmas Carol	1992	G	7.7	Theater Release	Family	85				
5	A Christmas Story	1983	PG	7.9	Theater Release	Comedy	93				
6	Trading Places	1983	R	7.5	Theater Release	Comedy	116				
7	Gremlins	1984	PG	7.3	Theater Release	Horror	106				
8	All I want for Christmas	1991	G	6	Theater Release	Family	92				
9	Jingle All the Way	1996	PG	5.6	Theater Release	Family	89				
10	I'll Be Home for Christmas	1998	PG	5.5	Theater Release	Family	86				

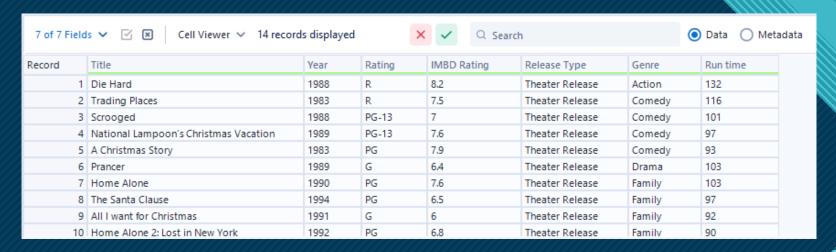




#### **Workflow Steps:**

5. **Final Selection:** Used the Sort tool again to sort the "Genre" field in <u>ascending order</u> and the "Run time" field in <u>descending order</u>.

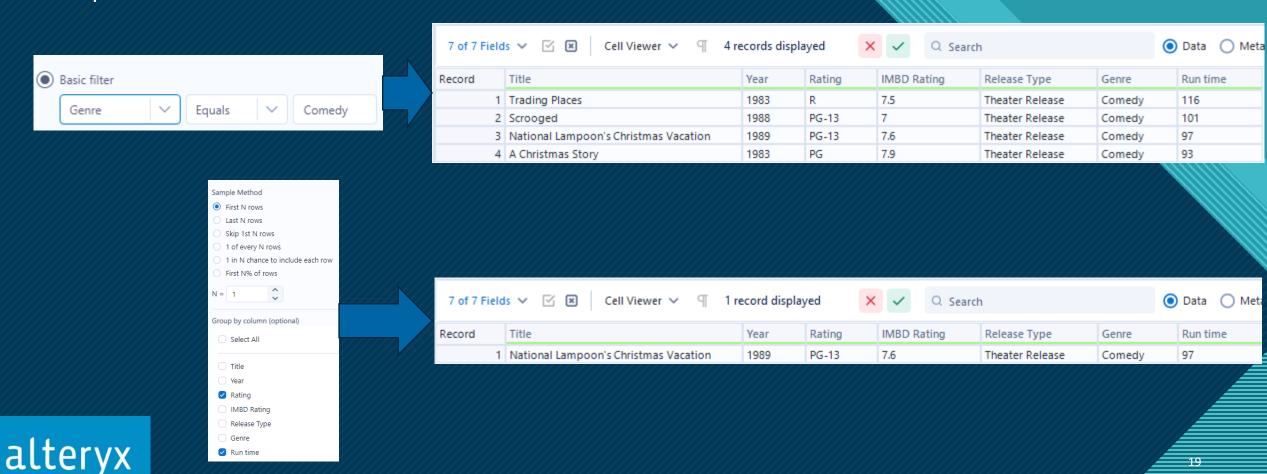






### **Workflow Steps:**

5. Final Selection: Select genre to "Comedy" using Filter Tool, Used Sample Tool to isolate the final answer

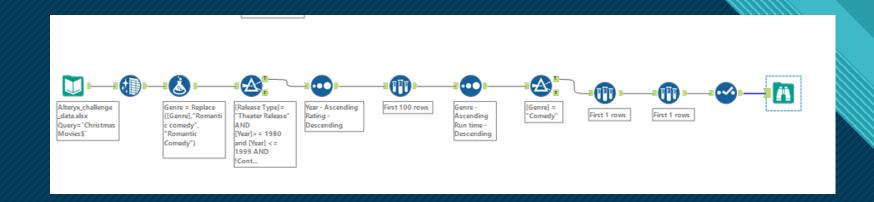




### **Workflow Steps:**

**Result:** The highest-rated Christmas film released in theatres between 1980 and 1999, in comedy genre, with longest runtime is "National Lampoon's Christmas Vacation.





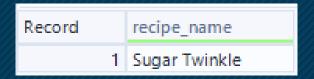




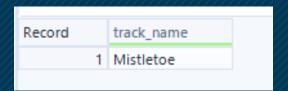
### Revisiting All the Tasks Before Proceeding:

Till now we have done 3 tasks, and the answers of all are as follows:

#### Task 1:



#### Task 2:



#### Task 3:

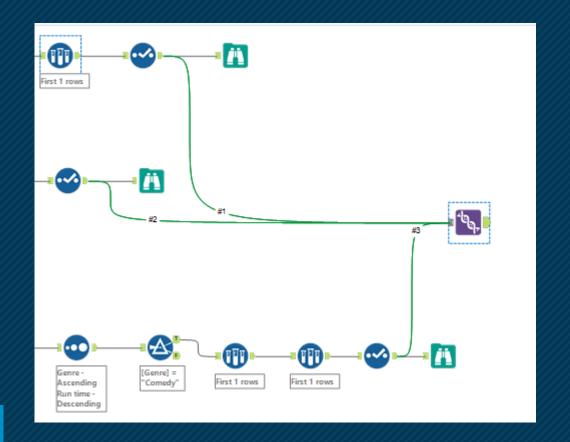


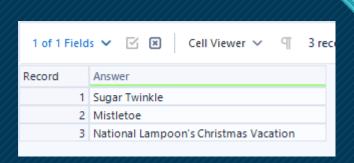




#### **Workflow Steps:**

- 1. Union Tool: Used the Union Tool to stack the answers from Tasks 1,
- 2, and 3 into one column









#### **Workflow Steps:**

2. **Lookup Table:** As mentioned in the problem statement a lookup table was given from which we had to replace the answers with the mentioned code.



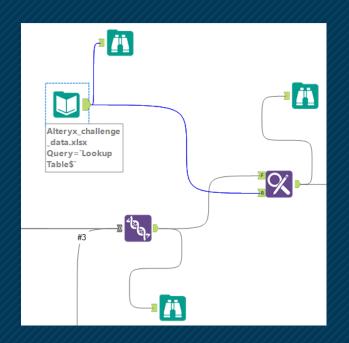
Record	answer	code
1	Sugar Twinkle	MGrW
2	Mistletoe	50GM
3	National Lampoon's Christmas Vacation	Evk
4	Holiday Macaroon	xpQ
5	Sleigh Ride	L2N0
6	A Christmas Story	H2vs

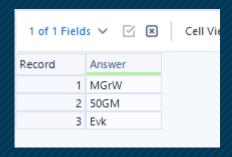




### **Workflow Steps:**

3. Find and Replace Tool: Matched the answers with the lookup table and replaced them with corresponding codes.

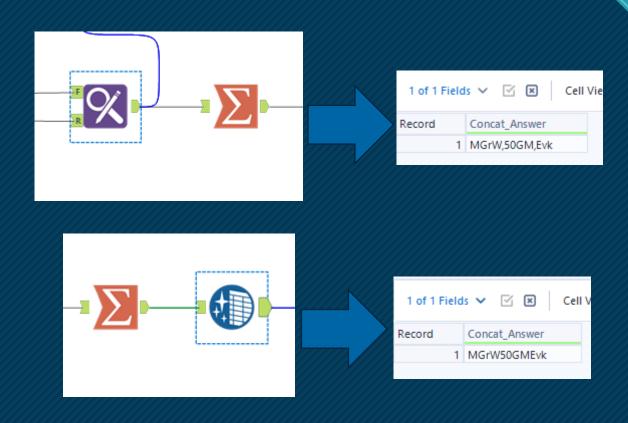






### **Workflow Steps:**

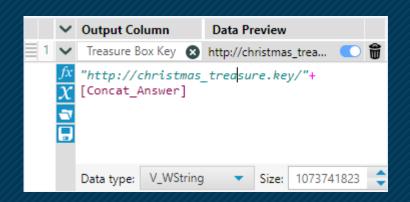
- 4. **Summary Tool:** Concatenated the three rows into one.
- 5. Data Cleansing Tool: Remove the punctuations from that one column

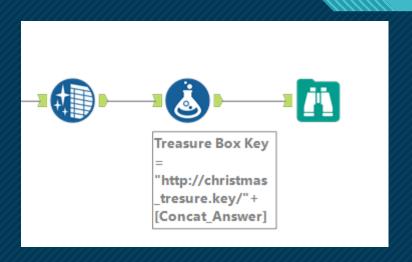




### **Workflow Steps:**

5. **Formula Tool:** Constructed the final link using the generated Concat\_answer

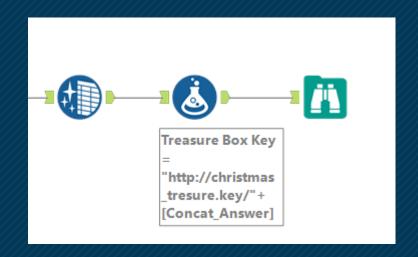


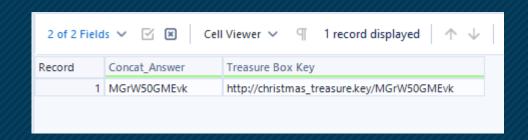




### **Workflow Steps:**

#### 6. Final Link:





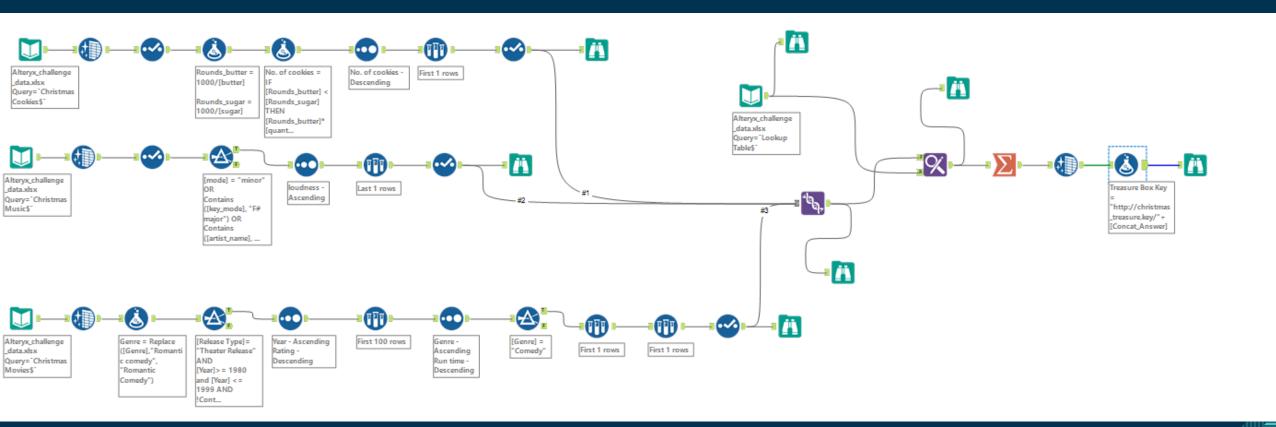


# Result and Learnings:

- ✓ Finally secured the treasure after a long hunt which was a link to a Christmas celebration video.
- ✓ Built this workflow and learnt effective usage of multiple tools and workflow designing in Alteryx



### Full Workflow:





# Thank You ©