dun & bradstreet

## *Expressions - Aggregations on the Fly*

Summary

*'On the fly' aggregations now include a **Pattern Match** function.*

A new **Pattern Match** feature of 'on the fly' aggregations is accessed through the Expression window in the same way that existing on the fly aggregations are.

A set of transactional patterns can be specified in order of priority, so that we can then identify records with that same pattern of transactions. We might, for instance, want to find people who have purchased 3 of the same policy types in a row or Policy A, then B, then C and finally D.

➤ In a new Expression window, click on the ⊞ **Add Aggregation** button and then on the tab that opens up

➤ From the **Type** drop down select **Pattern Match**
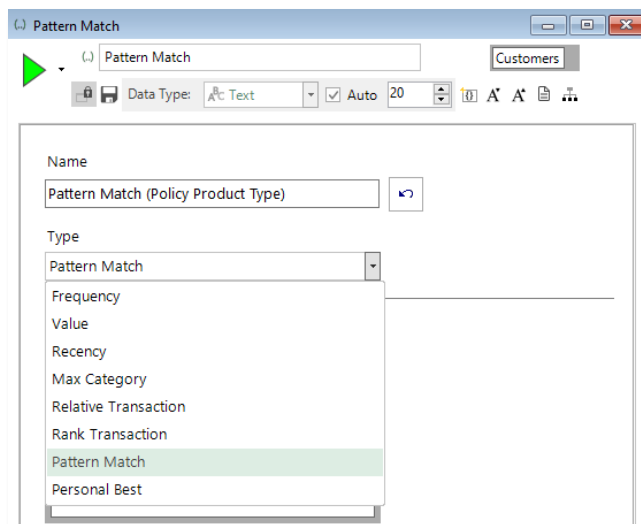
➤ Aggregate up from a transactional table (Policies) to a higher grouping level table (Customers)

➤ Order records by **Policy Inception Date** and select From **Earliest to Latest** (or vice versa)

➢ Add a selector variable – **Policy Product Type** - as the Pattern Match Variable

➢ Specify the Maximum days between transactions - if required.
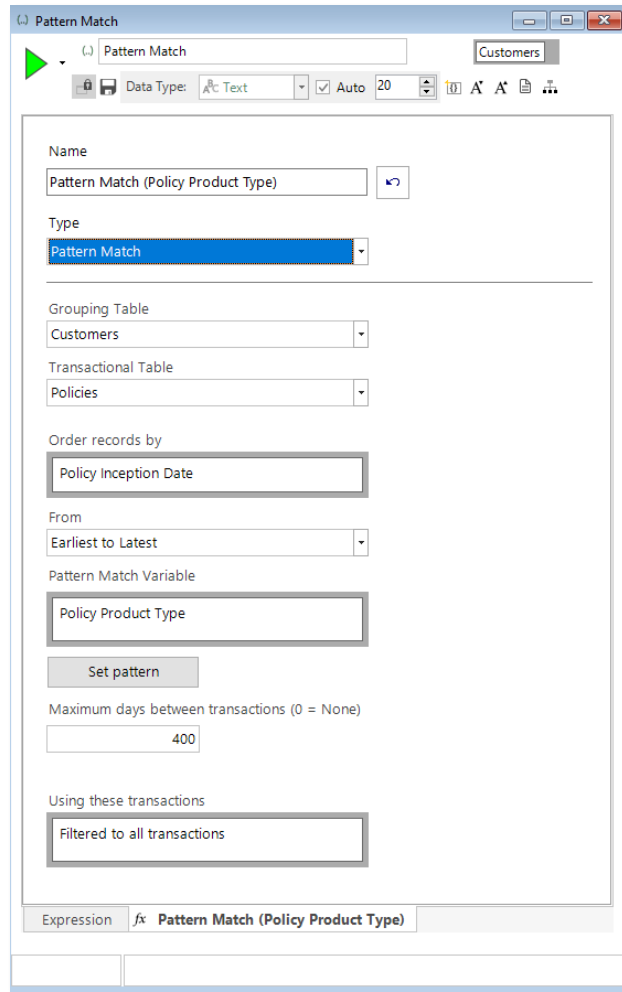
The above settings allow us to search for patterns in Customer's Policy Purchases, ordered by their Policy Inception Date.

To define the pattern(s) for Policy Product Type:

➢ Click **Set pattern** – a new window will open

Using the Show drop-down, choose if you would like to define the patterns using the variable codes or descriptions.

➢ Select **Descriptions**
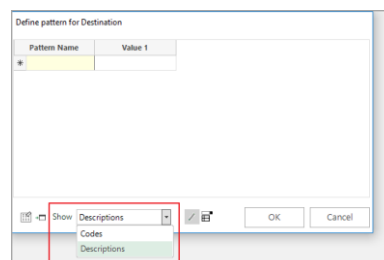
➢ Enter **Product A** as Value1 on the first row

It is possible to manually enter patterns in priority order using the Freeform Edit Mode or, alternatively switch to Dropdown Edit Mode to select the categories in the required order.
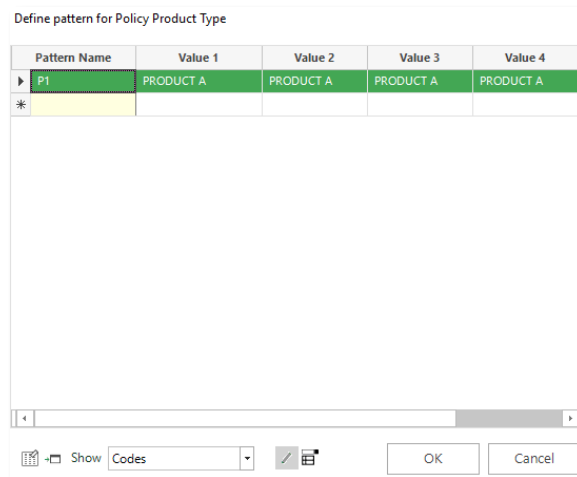
Right-clicking on a cell gives access to the menu options:

➢ Right-click the 'Product A' Value 1 cell, select **Copy Across** and set to 4 times
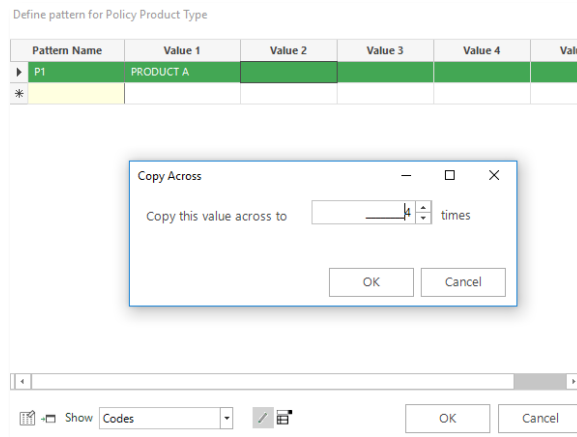
This results in the same outcome as manually entering Product A 4 times and allows us to identify Customers who have purchased Product A on 4 consecutive occasions.

➢ Name the pattern

We can use **?** to represent a single value in that position and an **=** to match the previous value in the pattern; in a marketing context this might be used to examine sequences of the same result – for example, to find people who are repeatedly buying the same product.

Define pattern for Policy Product Type

	Pattern Name	Value 1	Value 2	Value 3	Value 4
	P1	PRODUCT A	PRODUCT A	PRODUCT A	PRODUCT A
	P2	PRODUCT A	?	PRODUCT A	
▶	P3	PRODUCT B	?	=	PRODUCT B ▾
✱					

Show Descriptions ▾   ✏ ▦   OK   Cancel

In the case of the above screenshot:

- P1 identifies Customers who have purchased Product A 4 times in succession
- P2 identifies Customers who have purchased Product A and then any Product (which could still be A) and then product A
- P3 identifies Customers who have purchased product B, then any product (which could be B), repeated the purchase of the same Product, before going on to purchase Product B

To select people who meet the defined patterns:

➢ Drag the Pattern Match Expression onto a new Selection window

➢ Enter the Pattern Name into the freeform text window

Note: In this example, to search for people meeting the criteria of all 3 patterns, select Ranges and Wildcards and ensure the Match case checkbox is unticked.

➢ Enter **P*** into the freeform text window
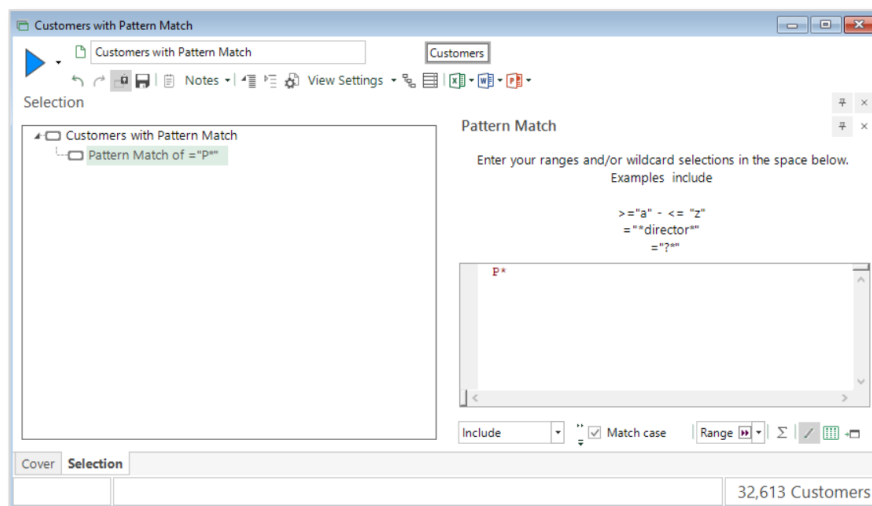
Use a Data Grid to verify the results:

Policy Product Type	Policy Inception Date
PRODUCT C	22-05-2010
PRODUCT A	16-02-2011
PRODUCT A	30-03-2011
PRODUCT A	26-05-2011
PRODUCT A	10-03-2012

Example Pattern 1

Policy Product Type	Policy Inception Date
PRODUCT B	01-02-2011
PRODUCT A	01-03-2011
PRODUCT C	01-05-2011
PRODUCT A	01-09-2011

Example Pattern 2

Policy Product Type	Policy Inception Date
PRODUCT B	01-04-2011
PRODUCT A	01-06-2011
PRODUCT A	01-10-2011
PRODUCT B	01-11-2011

Example Pattern 3