

Set Logic

The following is a summary of logic related to a set¹. A set relates to how the primary items within a set of [Line Items] is organized and characterized.

Examples

XBRL Cloud: <https://xbrlsite.azurewebsites.net/2019/Prototype/conformance-suite/Production/1000-ConceptArangementPatterns/11-Set/evidence-package/>

Luca Suite:

https://luca.pacioli.ai/luca/view/0f24fd35e961e167a727b663c75a4c5ec9fb7eb86730d6292f46e6e180fc2018_am2oe1yqNsl/index

Test case: <http://xbrlsite.com/seattlemethod/platinum-testcases/21-TestCase-set.xml>

Pesseract:

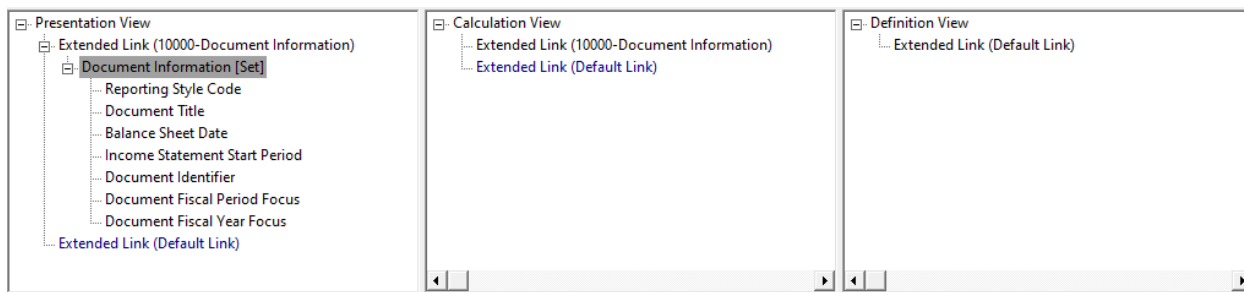
The screenshot displays the XBRL software interface. At the top, there are tabs for 'Rendering', 'Model Structure', 'Fact Table', 'Business Rules Structure', 'Business Rules Validation Results', and 'Elements'. Below these is a 'Component: (Network and Table)' section with 'Network' set to '10000 - Unknown - Document Information' and 'Table' set to 'Implied [Table]'. The main area shows a table with columns for 'Unit [Axis]', 'Reporting Entity [Axis]', and 'Implied [Line Items]'. The 'Reporting Entity' is 'SAMP http://www.reportingscheme.com/ID'. The table lists various 'Document Information' facts with their periods and values. A pop-up window titled 'Fact Characteristics and Properties' is open, showing details for the selected fact: 'Document Fiscal Year Focus'. The pop-up has tabs for 'Properties', 'Occurrences', and 'To Do'. The 'Properties' tab is active, showing fields like 'Reporting Entity', 'Period', 'Concept', 'Name', 'Prefix', 'Balance Type', 'Period Type', 'Data Type', 'Fact Value', 'Units', 'Decimals (rounding)', and 'Nil'.

Fact Name	Period	Value
Reporting Style Code	2020-01-01/2020-12-31	BS1-IS1-CF1
Document Title	2020-01-01/2020-12-31	External financial statement
Balance Sheet Date	2020-01-01/2020-12-31	2020-12-31
Income Statement Start Period	2020-01-01/2020-12-31	2020-01-01
Document Identifier	2020-01-01/2020-12-31	XBG-DD3-4BX-TTG
Document Fiscal Period Focus	2020-01-01/2020-12-31	FY
Document Fiscal Year Focus	2020-01-01/2020-12-31	2020

Property	Value
Reporting Entity	SAMP http://www.reportingscheme.com/ID
Period	2020-01-01/2020-12-31
Concept	Document Fiscal Year Focus
Name	report:DocumentFiscalYearFocus
Prefix	report
Balance Type	
Period Type	For Period (duration)
Data Type	xbrli:tokenItemType (xbrli:tokenItemType)
Fact Value	2020
Units	
Decimals (rounding)	
Nil	<input type="checkbox"/>

The following is an example of a modeling of a set logical pattern using XBRL:

¹ Set, <http://www.xbrlsite.com/seattlemethod/platinum-testcases/set/>



Note that no explicit hypercube is provided. However, an implied hypercube can be assumed.

Brief Description

A **set** concept arrangement logical pattern represents a set of concepts which go together for some reason out of convenience or necessity. There may be, or may not be, any similarity between any of the concepts within the set.

Concept [Aspect]	Period [Aspect]	
Document Information [Set]		
Reporting Style Code	2020-01-01 2020-12-31	BS1-IS1-CF1
Document Title	2020-01-01 2020-12-31	External financial statement
Balance Sheet Date	2020-01-01 2020-12-31	2020-12-31
Income Statement Start Period	2020-01-01 2020-12-31	2020-01-01
Document Identifier	2020-01-01 2020-12-31	XBG-DD3-4BX-TTG
Document Fiscal Period Focus	2020-01-01 2020-12-31	FY
Document Fiscal Year Focus	2020-01-01 2020-12-31	2020
Some Instant Concept	2020-12-31	11111111

Axioms

1. A set is a type of information block object.
2. A set has no mathematical relationship between the concepts within the set.
3. The calendar period type of each concept may, or may not, be the same.
4. The data type of each concept may, or may not, be the same.
5. The units of each fact in a roll up must be the same.
6. A set is modeled using XBRL:
 - a. Presentation relations show an [Abstract] element which has the Concepts which are members of the set.
 - b. Calculation relations never exist.

- c. Definition relations exist only when a hypercube is explicitly provided and are represented using the rules of XBRL Dimensions.
- 7. A set may have a subset. If there are subsets within a set, there is still only one set pattern.

Nested set with multiple units and periods:

Concept [Aspect]	Units	Period [Aspect]	
Document Information [Set]			
Reporting Style Code		2020-01-01 2020-12-31	BS1-IS1-CF1 //
Document Title		2020-01-01 2020-12-31	External financial statement //
Balance Sheet Date		2020-01-01 2020-12-31	2020-12-31
Income Statement Start Period		2020-01-01 2020-12-31	2020-01-01
Document Identifier		2020-01-01 2020-12-31	XBG-DD3-4BX-TTG //
Document Fiscal Period Focus		2020-01-01 2020-12-31	FY //
Document Fiscal Year Focus		2020-01-01 2020-12-31	2020 //
Some Instant Concept	iso4217:EUR	2020-12-31	11111111
Some Subset [Abstract]			
Alpha	Shares	2020-12-31	100000
Bravo	Pure	2020-01-01 2020-12-31	100000
Charlie	iso4217:EUR	2020-01-01 2020-12-31	100000
Delta		2020-01-01 2020-12-31	This is a string. //

Generally, it is better to have each part of a set within some subset.