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Literate Data Model

Preliminaries

the basic structure of the model

In Literate Data Modeling, the main components of interest are typically Classes, Attributes, Models, and Subjects. However, to streamline the model and promote reusability, we introduce a supertype called Component. By defining common attributes and behaviors in the Component class, we can inherit them in the subclasses, ensuring consistency and reducing duplication throughout the model.

We present the Component class first because it is a best practice in modeling to introduce supertypes before their subtypes. This approach allows readers to understand the general concepts and shared properties before delving into the specifics of each specialized component.

Component An element or building block of the literate data model Components Component Annotation LiterateDataModel , Subject , Class , Key , AttributeSection , Attribute , Constraint , Method , ParameterAnInputToAMethod
the name of the component, not in camel case (String value O_O) This is a warning with emoji
The name of the component (CamelName value O_O)
(QualifiedCamel value O_O)
a short form of the component's name, used for cross references and improved readability. (CamelName value O_O) "LDM" is the short form of "Literate Data Model". name - how do you say name in english? x.name == y the abbreviated name should be shorter than the actual name len(abbreviatedName) < len(name) Why have an abbreviation longer than the name? Warning Does this annotation find it's way to the Constraint? YES! It's fixed!
A brief, one-line definition or description of the component, suitable for use in a descriptive table of contents. _ (OneLiner value O_O)
A more detailed explanation or discussion of the component _ (RichText value O_O)
Indicates whether this component is an embellishment added during post-parsing processing _ (Boolean value O_O) false This attribute is set to true for components that are automatically generated or added during the fleshing out, review, or rendering processes, such as implied attributes or suggested model elements. It helps distinguish embellishments from the core model elements defined in the original LDM source.

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Indicates whether this component is an embellishment added during post-parsing processing _
(Boolean value 0_0)

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([Boolean](#) value [O_O](#))

false

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mechanical attributes

Indicates whether this component is an embellishment added during post-parsing processing _

([Boolean](#) value [O_O](#))

false

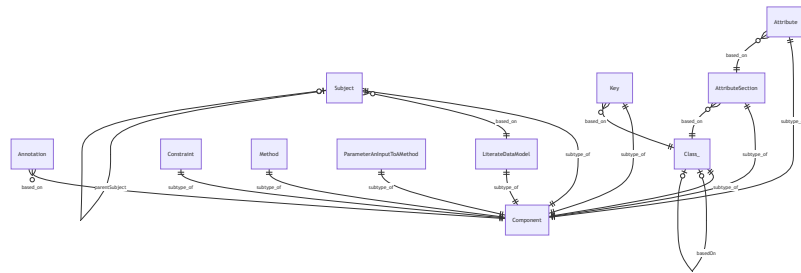
This attribute is set to true for components that are automatically generated or added during the fleshing out, review, or rendering processes, such as implied attributes or suggested model elements. It helps distinguish embellishments from the core model elements defined in the original LDM source.

Mermaid ER Diagram for Component - Inert

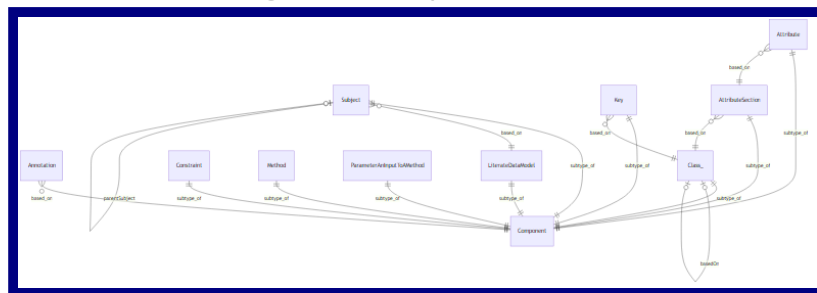
erDiagram

Annotation }o--|| Component : based_on
LiterateDataModel ||--|| Component : subtype_of
Subject ||--|| Component : subtype_of
Subject }o--|| LiterateDataModel : based_on
Subject |o--o| Subject : parentSubject
Class_ ||--|| Component : subtype_of
Class_ |o--o| Class_ : basedOn
Key ||--|| Component : subtype_of
Key }o--|| Class_ : based_on
AttributeSection ||--|| Component : subtype_of
AttributeSection }o--|| Class_ : based_on
Attribute ||--|| Component : subtype_of
Attribute }o--|| AttributeSection : based_on
Constraint ||--|| Component : subtype_of
Method ||--|| Component : subtype_of
ParameterAnInputToAMethod ||--|| Component : subtype_of

Mermaid ER Diagram for Component - Live!



Mermaid ER Diagram for Component - PNG for mermaid



AnnotationType	
a kind of note, or aside, used to call attention to additional information about some Component.	
Each LDM declares a set of Annotation Types, with defined labels, emojis, and clearly documented purposes. These are <i>recognized or registered</i> Annotation Types.	
AnnotationTypes	
AnnotationTypes	
LiterateDataModel	
an emoji	(Emoji value O_O)
an emoji	(String value O_O)
the Unicode for the emoji	(String value O_O)
A short label to indicate the purpose of the annotation _	(LowerCamel value O_O)
the plural form of the label	(UpperCamel value O_O)
based on label	
the intended reason for the annotation.	(OneLiner value O_O)
A link back to the LiterateDataModel on which this AnnotationType depends.	(LiterateDataModel value M_1)
reverse attribute for Annotation.annotationType from which this was implied.	(Annotation value M_1)
Annotation.annotationType	

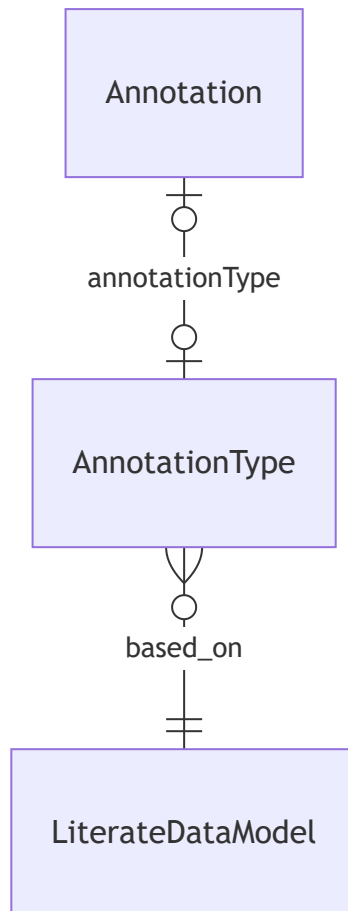
Mermaid ER Diagram for AnnotationType - Inert

```

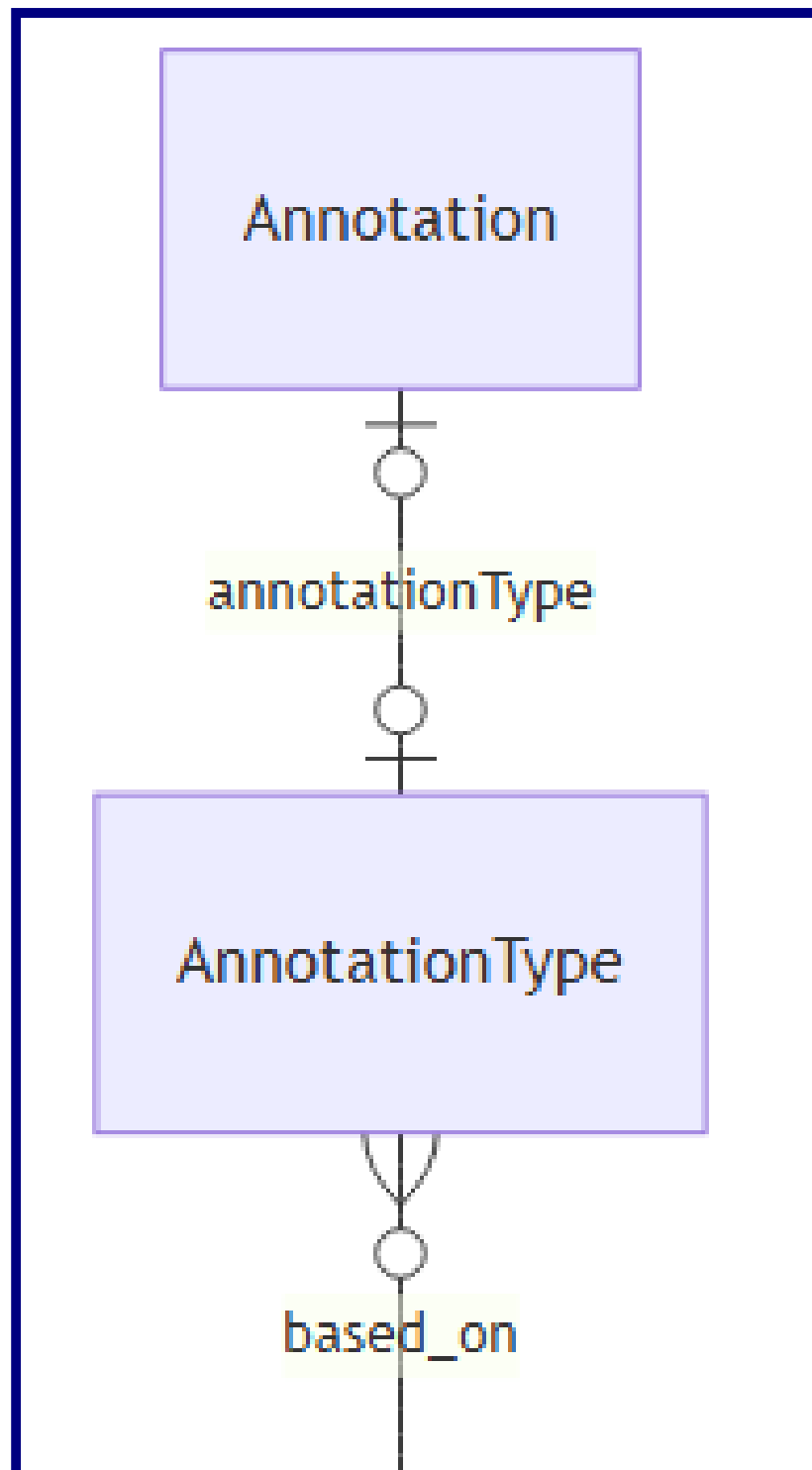
erDiagram
    AnnotationType }o--|| LiterateDataModel :
    based_on
    Annotation |o--o| AnnotationType : annotationType

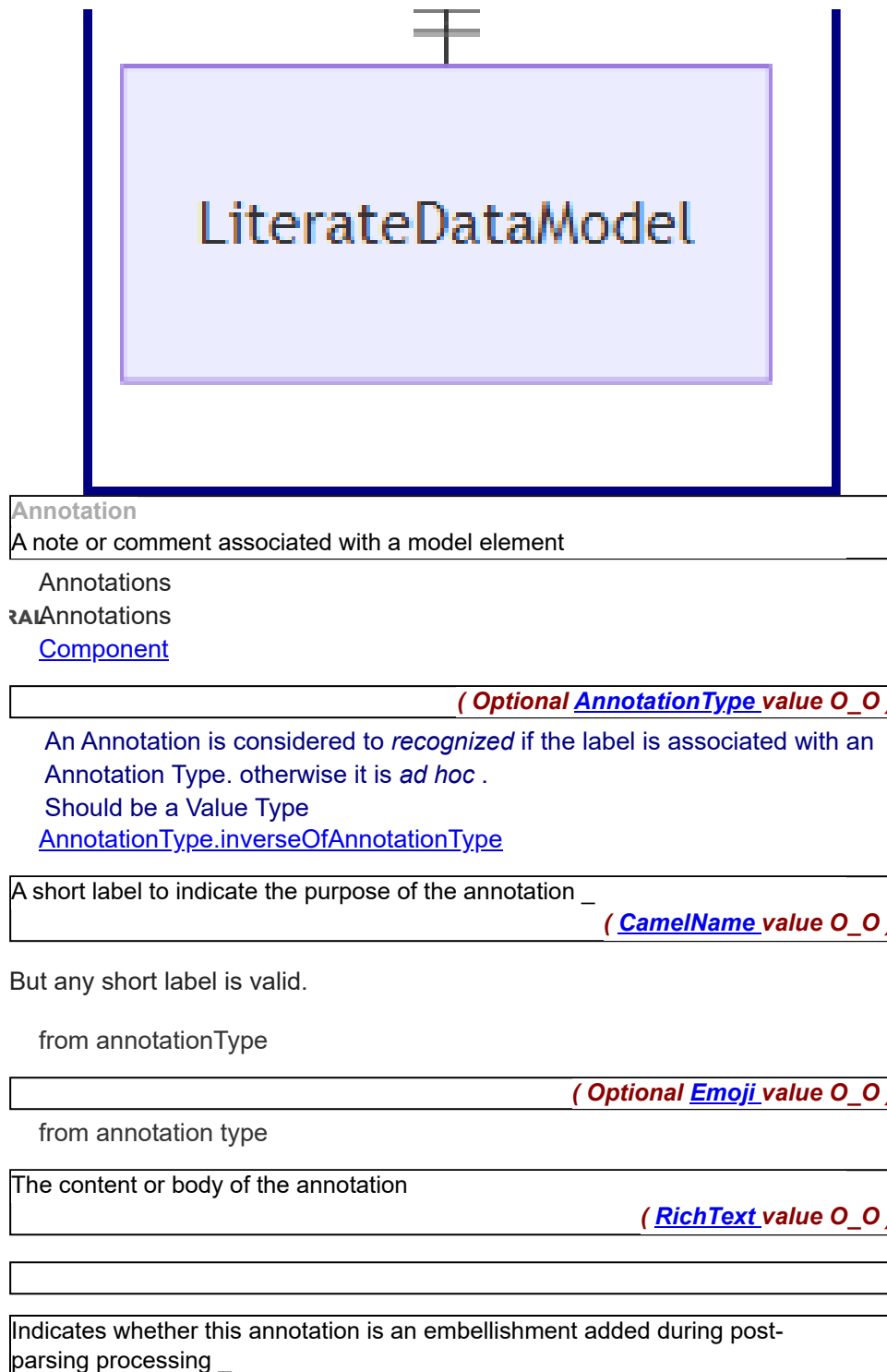
```

Mermaid ER Diagram for AnnotationType - Live!



Mermaid ER Diagram for AnnotationType - PNG for mermaid





	(Boolean value O_O)
false	
This attribute is set to true for annotations that are automatically generated or added during the fleshing out, review, or rendering processes, such as suggestions, issues, or diagnostic messages. It helps distinguish embellishment annotations from the annotations defined in the original LDM source.	
A link back to the Component on which this Annotation depends.	
	(Component value M_1)

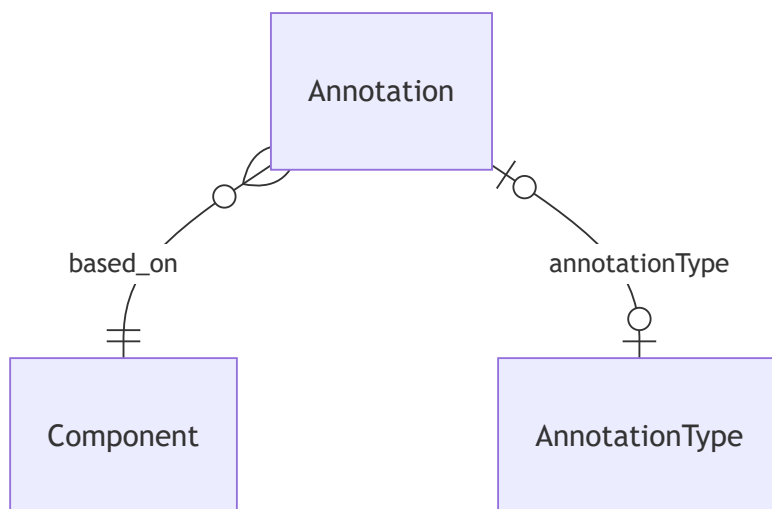
Mermaid ER Diagram for Annotation - Inert

erDiagram

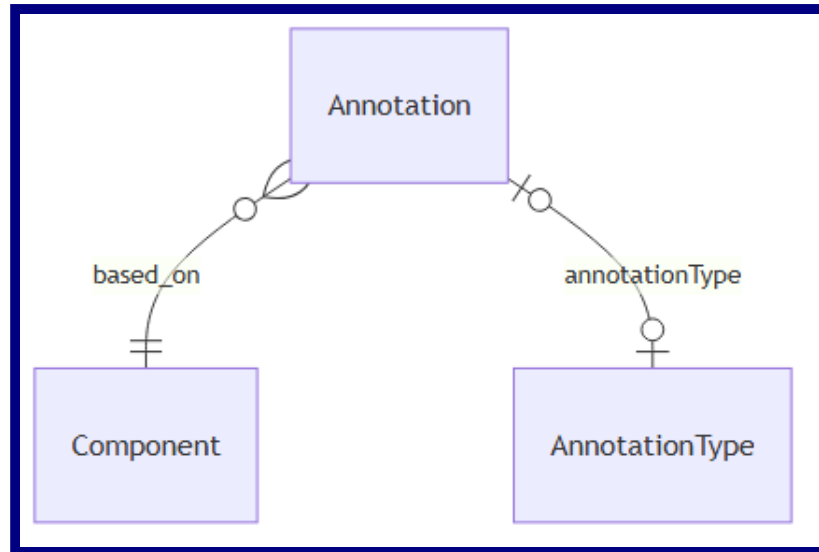
Annotation }o--|| Component : based_on

Annotation |o--o| AnnotationType : annotationType

Mermaid ER Diagram for Annotation - Live!



Mermaid ER Diagram for Annotation - PNG for mermaid



The Model and its Subjects

LiterateDataModel
A representation of a domain's entities, attributes, and relationships, along with explanatory text and examples
LiterateDataModels AnnotationType , Subject Component
(UpperCamel value O_O)
Component.name
list of all classes in the model, as ordered in the definition of the model.
(List of Classes value O_O)
Class.inverseOfAllSubjects gathering s.allSubjects over s in subjectAreas Subject names must be unique across the model.
list of all classes in the model, as ordered in the definition of the model.
(List of Classes value O_O)
Class.inverseOfAllClasses gathering s.allClasses over s in allSubjects. Class names must be unique across the model.
(List of AnnotationTypes value O_O)
the recommended language for expressing derivation, defaults, and constraints
(CodingLanguage value O_O)
OCL
Languages (Optional List of CodingLanguages value O_O)
the recommended language for expressing derivation, defaults, and constraints
(TemplateLanguage value O_O)
Handlebars
Languages (Optional List of TemplateLanguages value O_O)
A list of functions that require sophisticated AI-powered implementation *
(List of String value O_O)

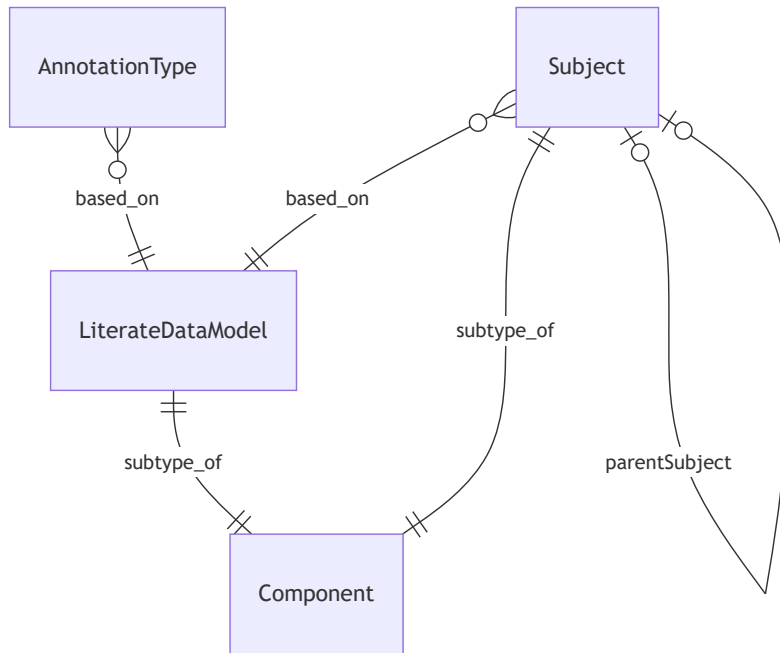
[*'aiEnglishPlural()*]

|

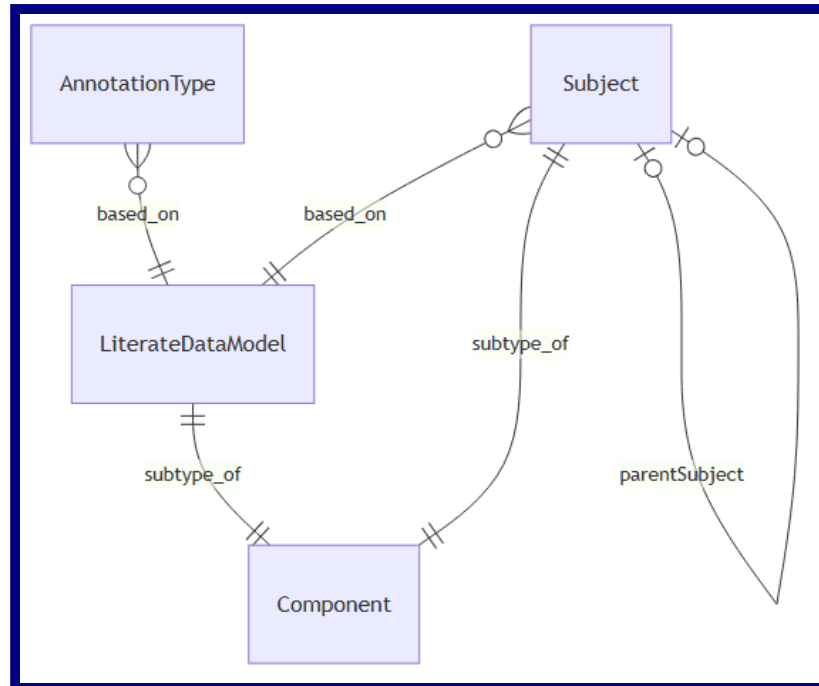
Mermaid ER Diagram for LiterateDataModel - Inert

```
erDiagram
    AnnotationType }o--|| LiterateDataModel :
    based_on
    LiterateDataModel ||--|| Component : subtype_of
    Subject ||--|| Component : subtype_of
    Subject }o--|| LiterateDataModel : based_on
    Subject |o--o| Subject : parentSubject
```

Mermaid ER Diagram for LiterateDataModel - Live!



Mermaid ER Diagram for LiterateDataModel - PNG for mermaid



Subject A specific topic or theme within the model
--

Subjects are the chapters an sections of the model.

- A subject need not contain any Classes if it's just expository.

Subjects
[LiterateDataModel](#)
[Component](#)
[SubjectArea](#)

	(UpperCamel value O_O)
Component.name	

The parent subject, if any, under which this subject is nested _	(<i>Optional</i> Subject value O_O)
Subject.inverseOfParentSubject	

The major classes related to this subject, in the order in which they should be presented _	(<i>List of</i> Classes value O_O)
define chapter, section, subsection as levels? Class.inverseOfClasses	

Any child subjects nested under this subject, in the order in which they should be presented _	(<i>List of</i> Subjects value O_O)
--	---

DSL : the Classes within a Subject are always displayed before the childSubjects.

[Subject.inverseOfChildSubjects](#)

A link back to the LiterateDataModel on which this Subject depends. (LiterateDataModel value M_1)
Inverse attribute for Subject.parentSubject from which this was implied. (Subject value M_1)
Subject.parentSubject
Inverse attribute for Subject.childSubjects from which this was implied.

([Subject](#) value *M_1*)

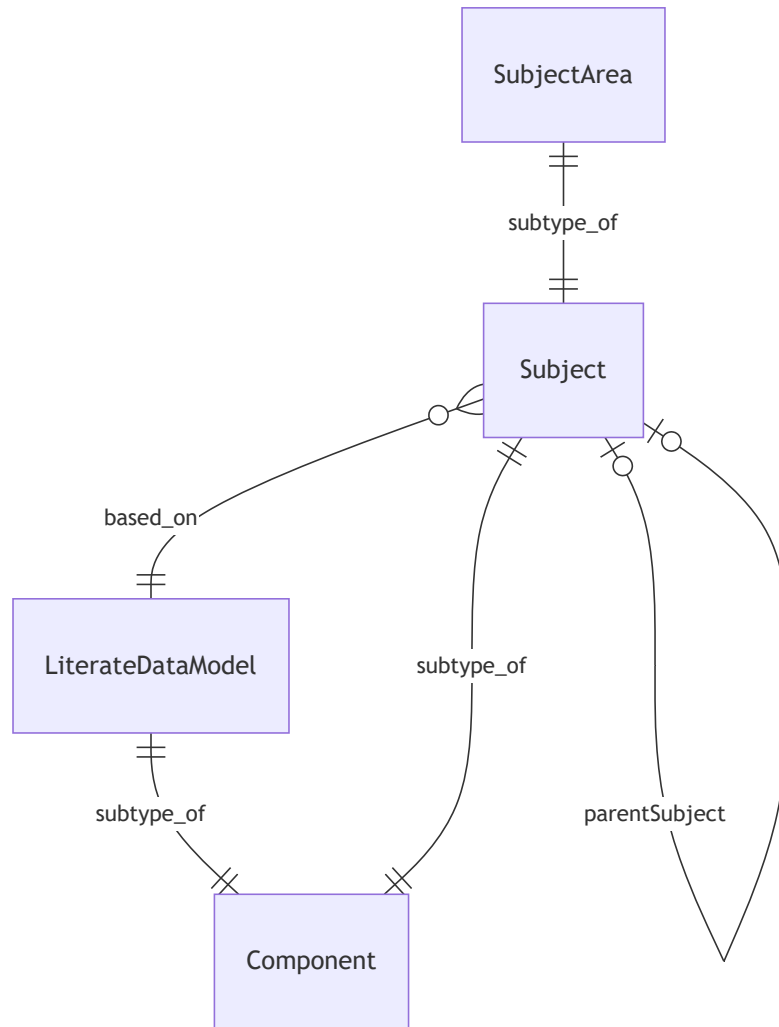
[Subject.childSubjects](#)

Mermaid ER Diagram for Subject - Inert

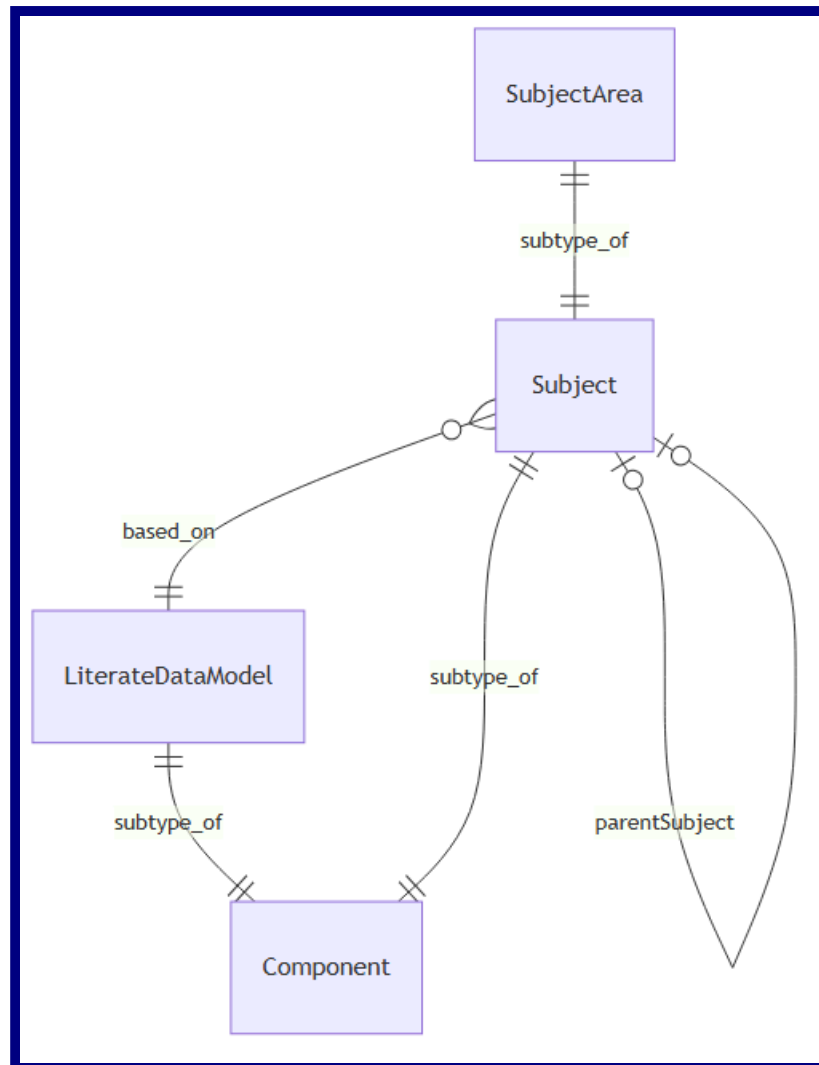
erDiagram

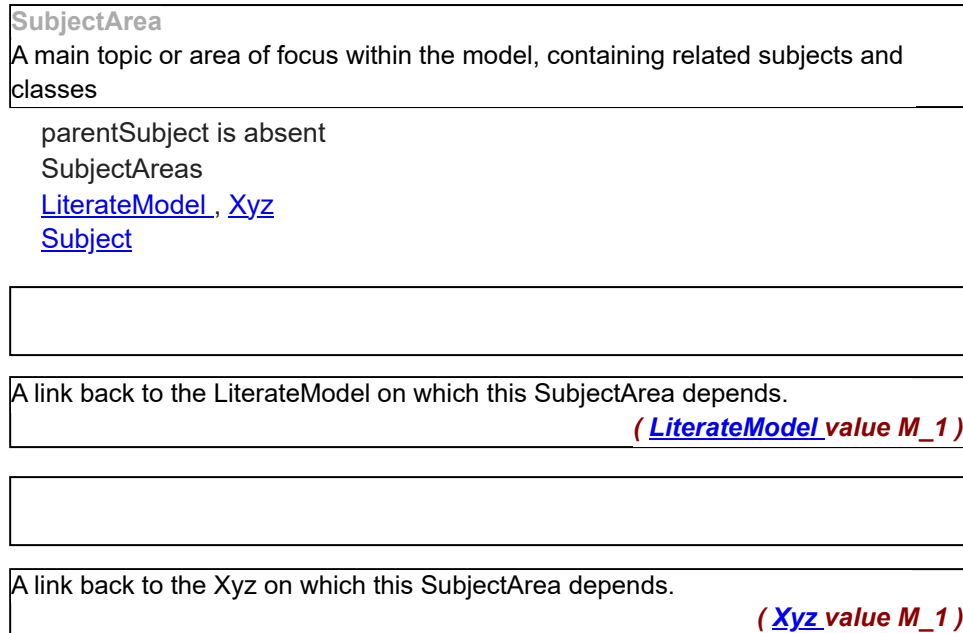
LiterateDataModel ||--|| Component : subtype_of
Subject ||--|| Component : subtype_of
Subject }o--|| LiterateDataModel : based_on
Subject |o--o| Subject : parentSubject
SubjectArea ||--|| Subject : subtype_of

Mermaid ER Diagram for Subject - Live!



Mermaid ER Diagram for Subject - PNG for mermaid



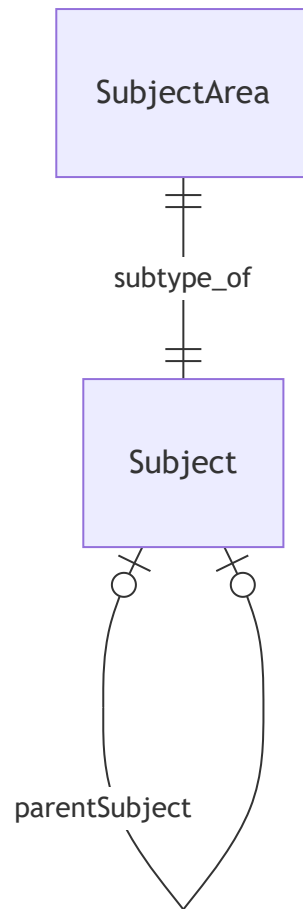


Mermaid ER Diagram for SubjectArea - Inert

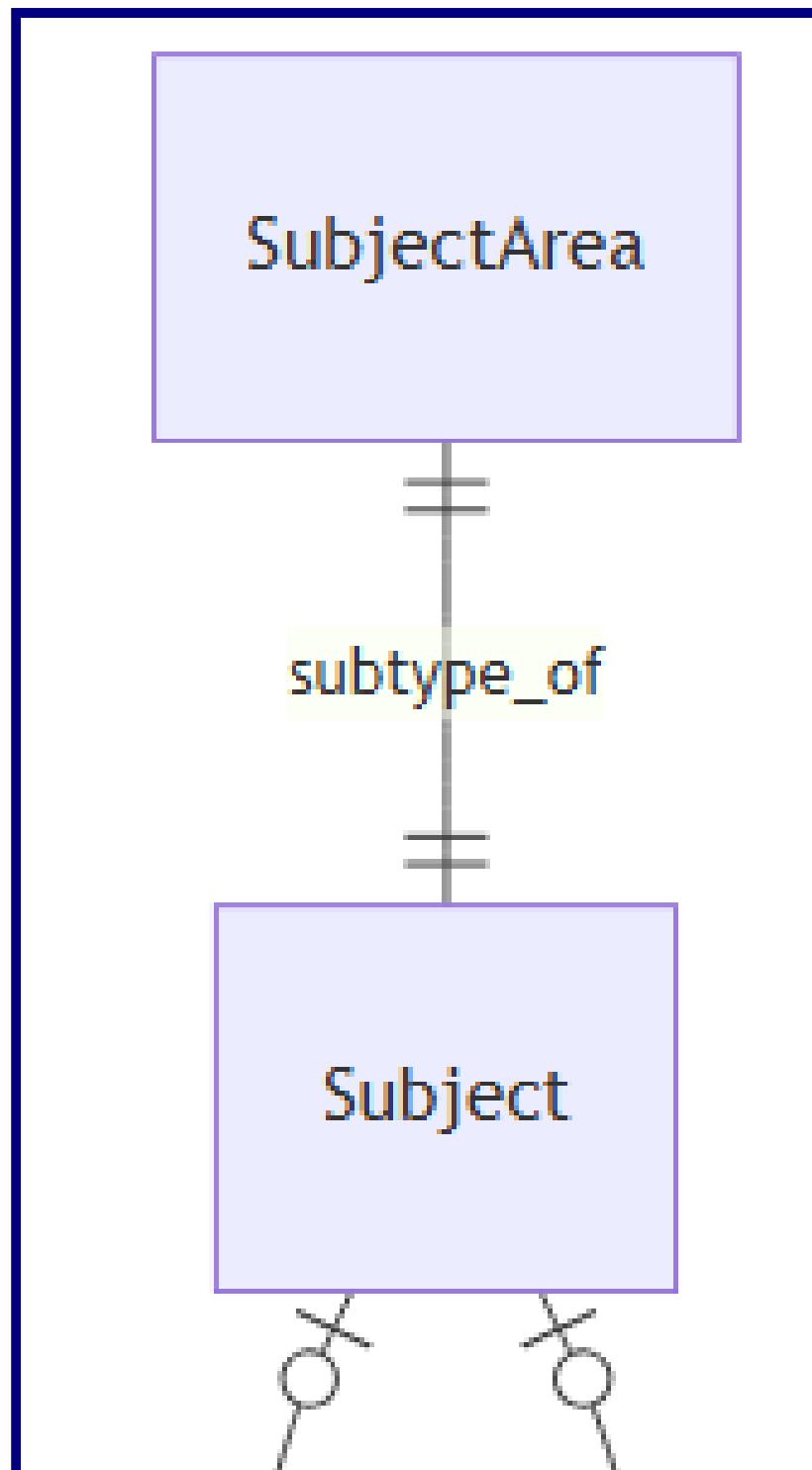
erDiagram

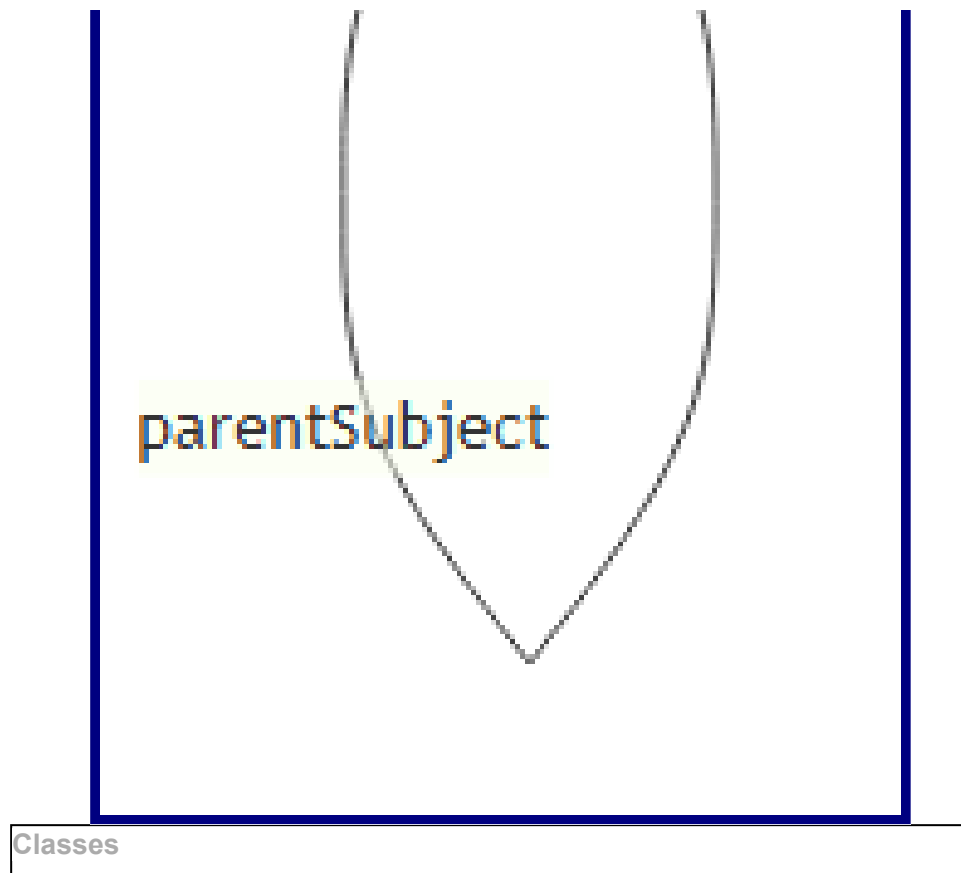
Subject |o--o| **Subject** : parentSubject
SubjectArea ||--|| **Subject** : subtype_of

Mermaid ER Diagram for SubjectArea - Live!



Mermaid ER Diagram for SubjectArea - PNG for mermaid





Class

A key entity or object type in the model, often corresponding to a real-world concept

Classes

[Subtyping](#), [Key](#), [AttributeSection](#), [ClassConstraint](#)

[Component](#)

[ReferenceType](#)

Within each Class, attribute names must be unique.

the normal English plural form of the name of the Class

([UpperCamel value O_O](#))

Might be Books for the Book class or other regular plurals.

- But also might be People for Person.

When inputting a model, you will rarely need to specify the plural form. The input program will just look it up.

the regular plural, formed by adding "s" or "es".

the Class or Classes on which this class is dependent

([Set of Class value O_O](#))

This is solely based on **Existence Dependency**. A true dependent entity cannot logically exist without the related parent entity. For instance, an Order Item cannot exist without an Order. If removing the parent entity logically implies removing the dependent entity, then it is a dependent entity.

that basedOn and dependentOf are being used synonymously in this metamodel.

[Class.inverseOfBasedOn](#)

The parent class

([Es value O_O](#))

the criteria, or dimensions, by which the class can be divided into subtypes

([List of Subtypings value O_O](#))

in a library model, the `Book` class could have subtypings based on genre (e.g., Fiction, Non-fiction), format (e.g., Hardcover, Paperback), or subject (e.g., Science, History).

[Subtyping.inverseOfSubtypings](#)

Any subtypes or specializations of this class based on its subtypings.

([List of Classes value O_O](#))

For instance, using the `Book` example, the subtypes could include `FictionBook` , `Non-fictionBook` , `HardcoverBook` , `PaperbackBook` , `ScienceBook` , and `HistoryBook` .

[Class.inverseOfSubtypes](#)

The attributes or properties of the class, in the order in which they should be presented _

(*List of [Attributes](#) value O_O*)

[Attribute.inverseOfAttributes](#)

additional attributes or properties of the class, grouped for clarity and elaboration. _

(*List of [AttributeSections](#) value O_O*)

[AttributeSection.inverseOfAttributeSections](#)

Any constraints, rules, or validations specific to this class _

(*List of [Constraints](#) value O_O*)

Constraints may be expressed on either the Class or the Attribute. Always?

Any behaviors or operations associated with this class _

(*List of [Methods](#) value O_O*)

[Method.inverseOfMethods](#)

the Classes which are basedOn this Class

(*Optional Set of [Classes](#) value O_O*)

[Class.basedOn](#)

(*Optional Set of [UniqueKeys](#) value O_O*)

[UniqueKey.basedOn](#)

Inverse attribute for `LiterateDataModel.allSubjects` from which this was implied.

(*[LiterateDataModel](#) value M_1*)

[LiterateDataModel.allSubjects](#)

Inverse attribute for `LiterateDataModel.allClasses` from which this was implied.

(*[LiterateDataModel](#) value M_1*)

[LiterateDataModel.allClasses](#)

Inverse attribute for Subject.classes from which this was implied.	(Subject value M_1)
Subject.classes	
Inverse attribute for Class.basedOn from which this was implied.	(Class value M_1)
Class.basedOn	
Inverse attribute for Class.subtypes from which this was implied.	(Class value M_1)
Class.subtypes	
Inverse attribute for Subtyping.classes from which this was implied.	(Subtyping value M_1)
Subtyping.classes	
Inverse attribute for SimpleDataTypeSubtpeOfDataType.coreClass from which this was implied.	(SimpleDataTypeSubtpeOfDataType value M_1)
SimpleDataTypeSubtpeOfDataType.coreClass	

Mermaid ER Diagram for Class_ - Inert

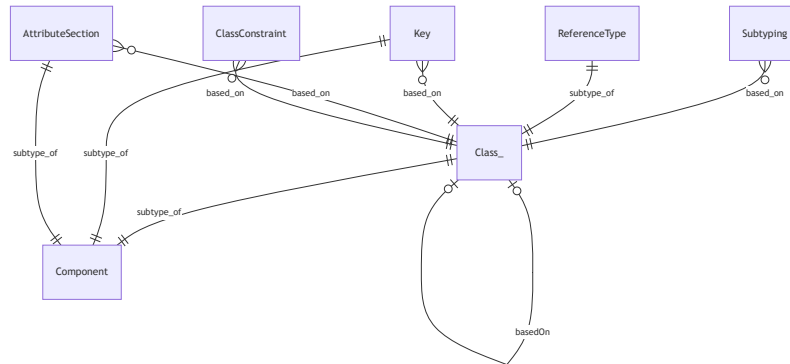
erDiagram

```

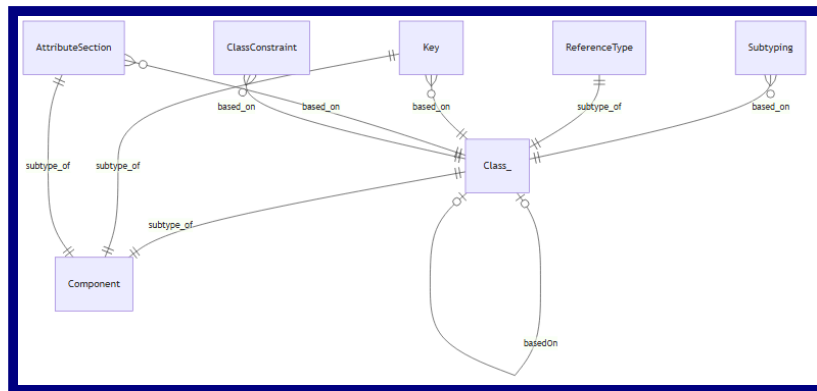
Class_ ||--|| Component : subtype_of
Class_ |o--o| Class_ : basedOn
Subtyping }o--|| Class_ : based_on
ReferenceType ||--|| Class_ : subtype_of
Key ||--|| Component : subtype_of
Key }o--|| Class_ : based_on
AttributeSection ||--|| Component : subtype_of
AttributeSection }o--|| Class_ : based_on
ClassConstraint }o--|| Class_ : based_on

```

Mermaid ER Diagram for Class_ - Live!



Mermaid ER Diagram for Class_ - PNG for mermaid



Subtyping a way in which subtypes of a Class may be classified
--

Subtypings
Subtypings
[Class](#)

(LowerCamel value O_O)
--

(Boolean value O_O)

true

(Boolean value O_O)

true

(List of Classes value O_O)

DSL : Shown in the DSL as

- Subtypes: byBrand - Brand1, Brand2,... (non exclusive, exhaustive)
- on the super class. And as
- Subtype of: SuperClass byBrand
- on the subclass.

every class can have an unnamed subtyping.
[Class.inverseOfClasses](#)

Inverse attribute for Class.subtypings from which this was implied. (Class value M_1)
Class.subtypings
A link back to the Class on which this Subtyping depends. (Class value M_1)

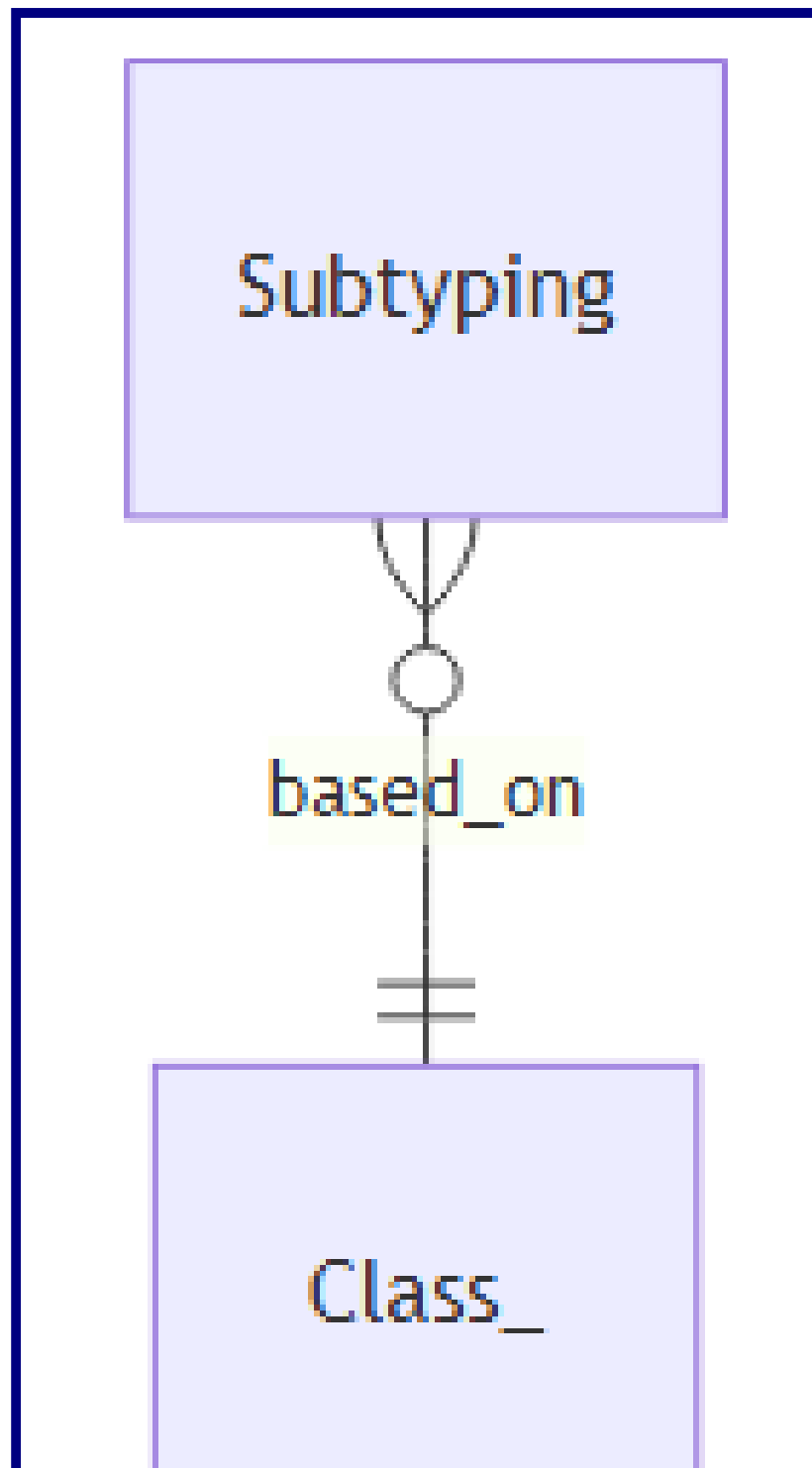
Mermaid ER Diagram for Subtyping - Inert

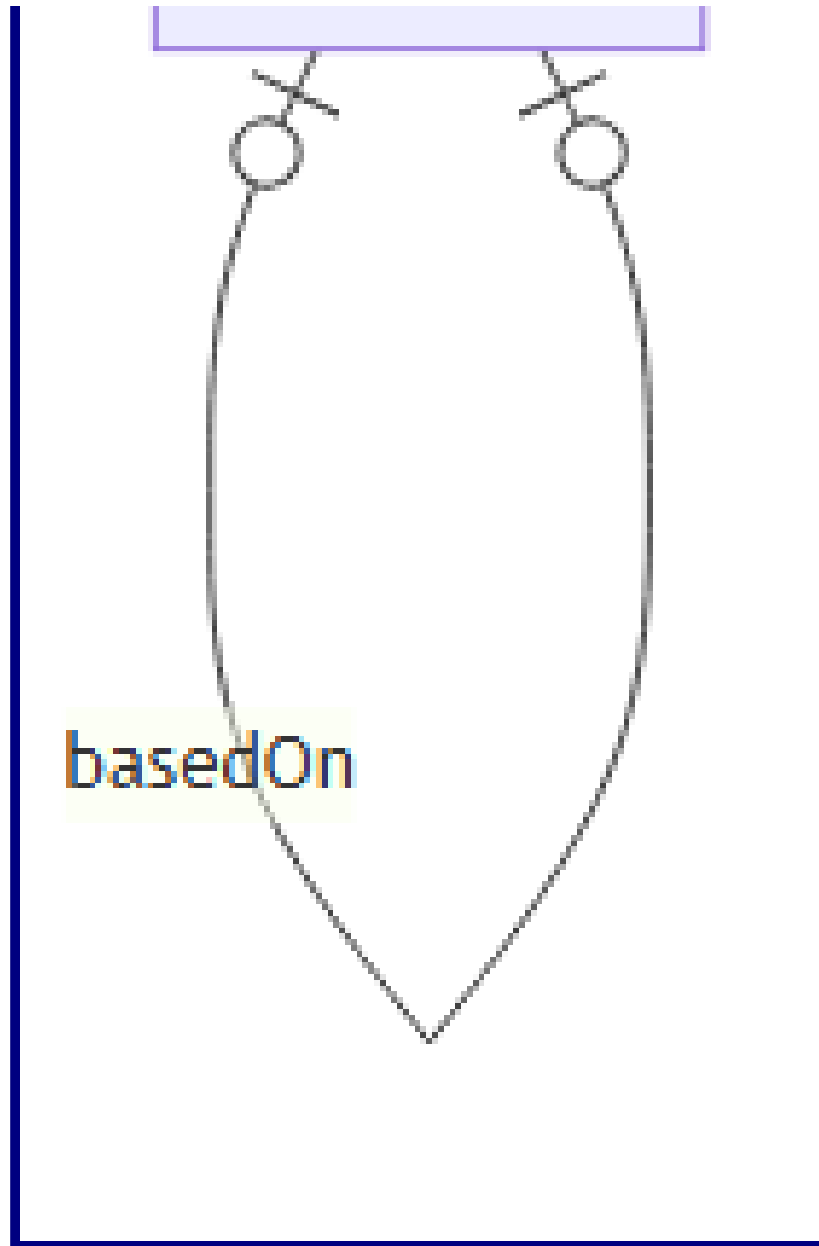
erDiagram

Class_ |o--o| Class_ : basedOn
Subtyping }o--|| Class_ : based_on

Mermaid ER Diagram for Subtyping - Live!

Mermaid ER Diagram for Subtyping - PNG for mermaid





ReferenceType

A class that is presumed to be used as a reference, rather than a value

ReferenceTypes
ReferenceTypes
[Class](#)

Mermaid ER Diagram for ReferenceType - Inert

erDiagram

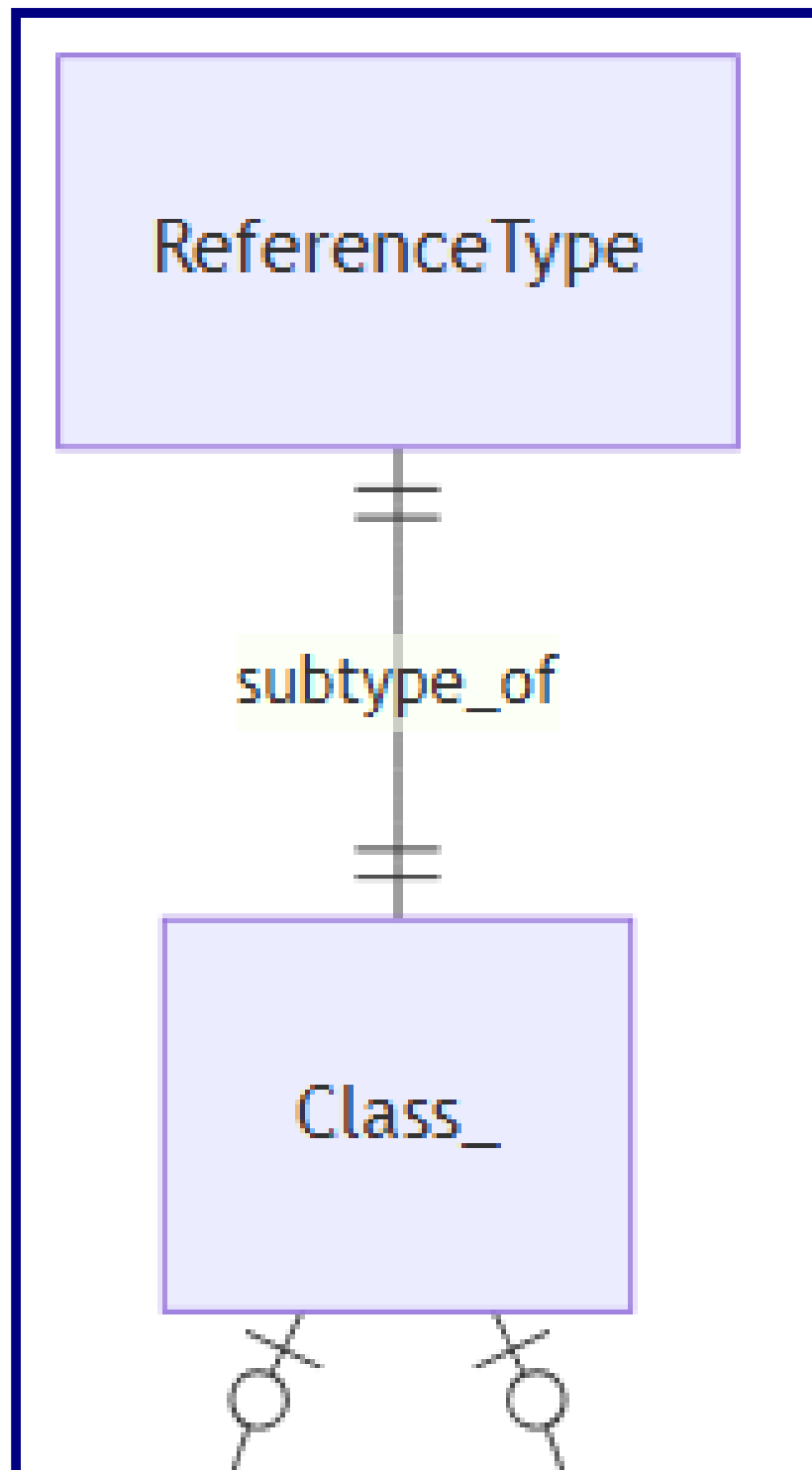
Class_ ||o--o| Class_ : basedOn

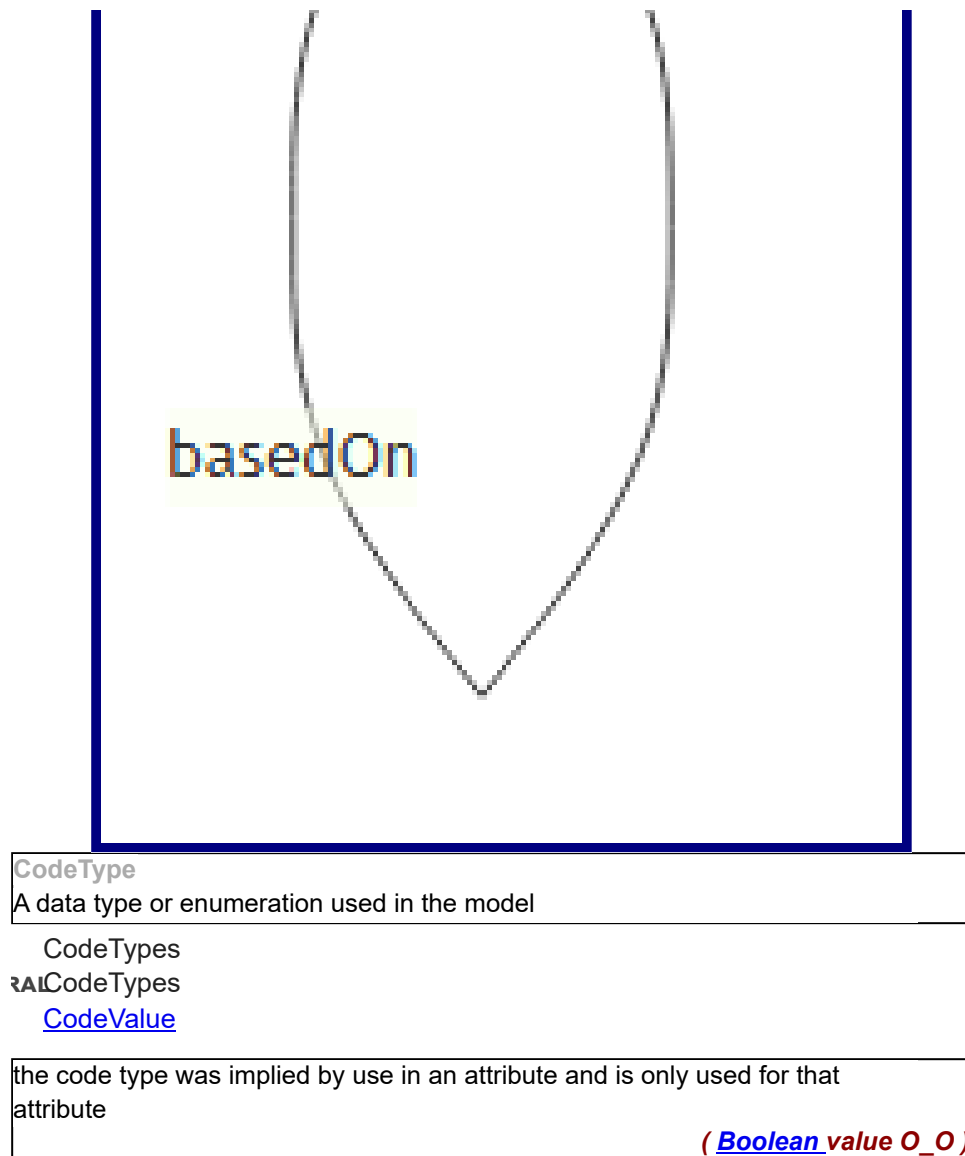
ReferenceType ||--|| Class_ : subtype_of

Mermaid ER Diagram for ReferenceType - Live!

erDiagram Class_ ||o--o| Class_ : basedOn ReferenceType ||--||
Class_ : subtype_of

Mermaid ER Diagram for ReferenceType - PNG for mermaid



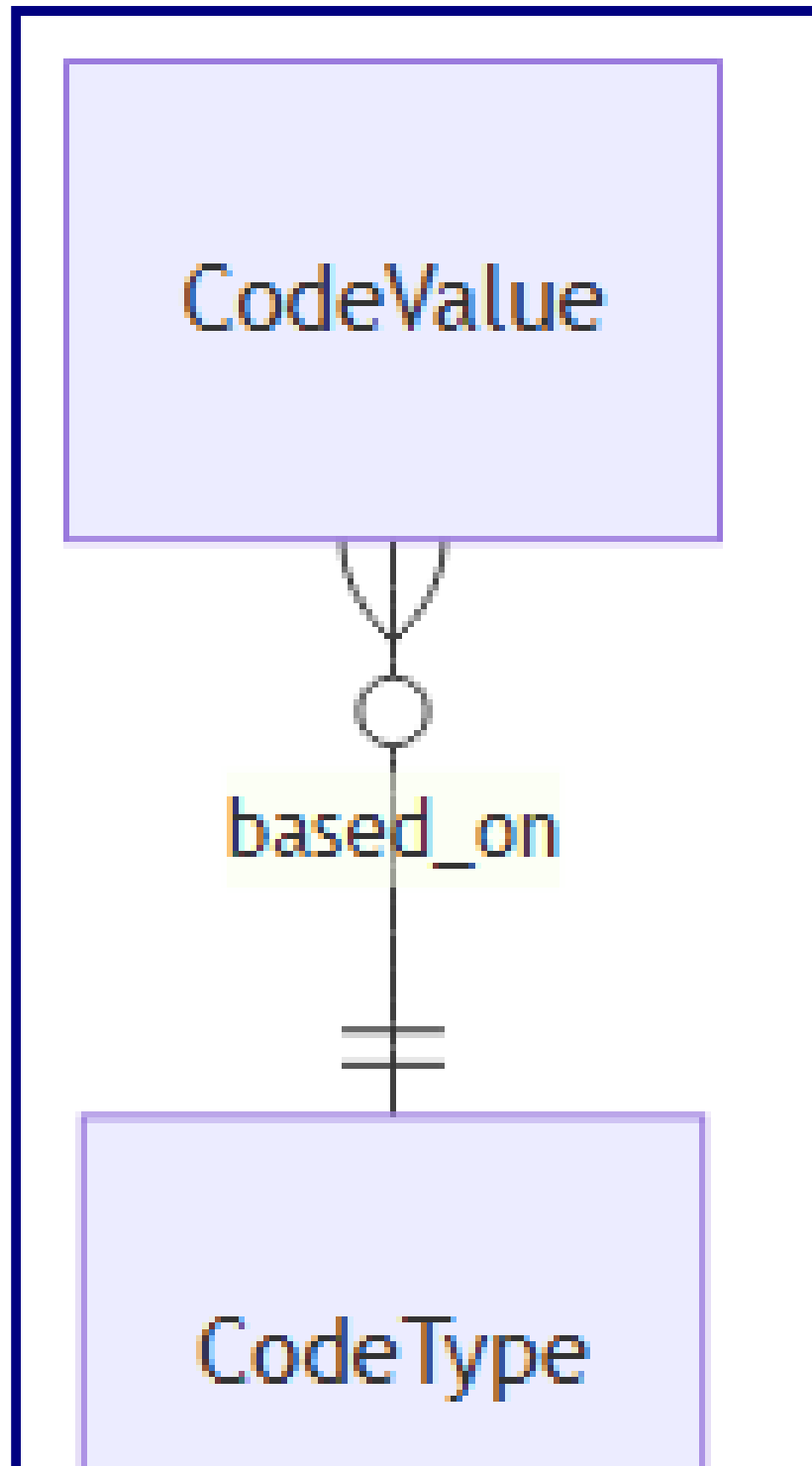


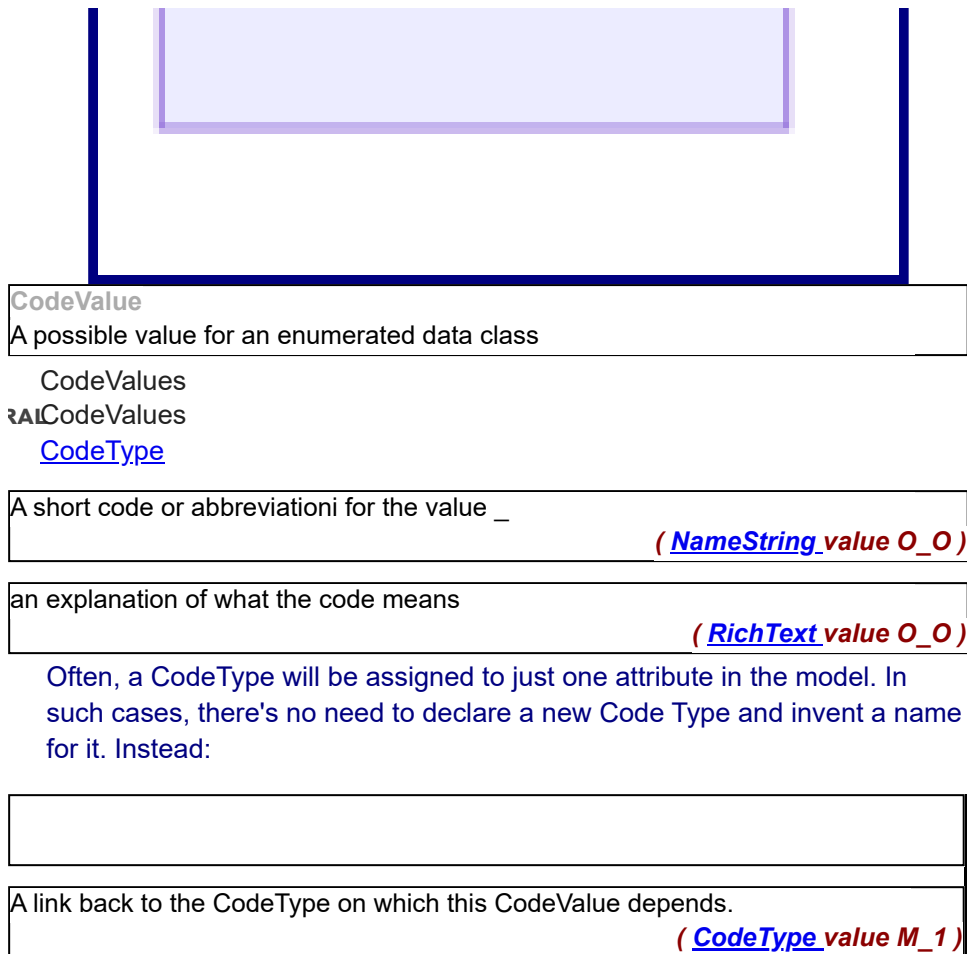
Mermaid ER Diagram for CodeType - Inert

erDiagram
CodeValue }o--|| CodeType : based_on

Mermaid ER Diagram for CodeType - Live!
erDiagram CodeValue }o--|| CodeType : based_on

Mermaid ER Diagram for CodeType - PNG for mermaid





Mermaid ER Diagram for CodeValue - Inert

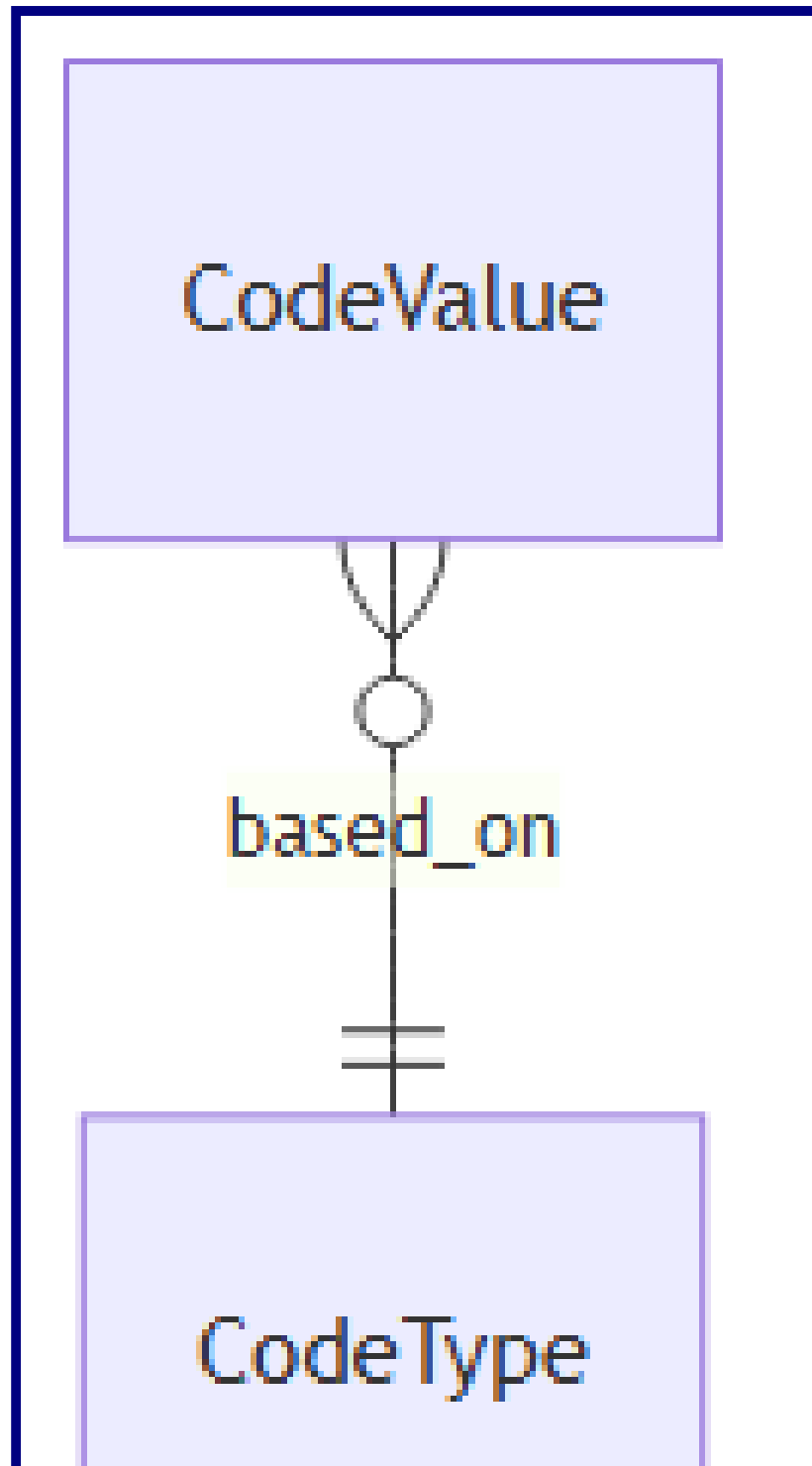
erDiagram

CodeValue }o--|| CodeType : based_on

Mermaid ER Diagram for CodeValue - Live!

erDiagram CodeValue }o--|| CodeType : based_on

Mermaid ER Diagram for CodeValue - PNG for mermaid





Key
a list of attributes of a class

Keys
 rAllKeys
[Class](#)
[Component](#)
[UniqueKey](#)

the attributes of the base Class.
 (*List of [Attributes](#) value O_O*)

[Attribute.inverseOfKeyAttributes](#)

each attribute must be a direct or inherited of the base class.
 no repetitions allowed in keyAttributes

👉 **Issue** : introduce PureLists?

need ascending descending to support index keys or ordering keys.

A link back to the Class on which this Key depends.
 (*[Class](#) value M_1*)

Mermaid ER Diagram for Key - Inert

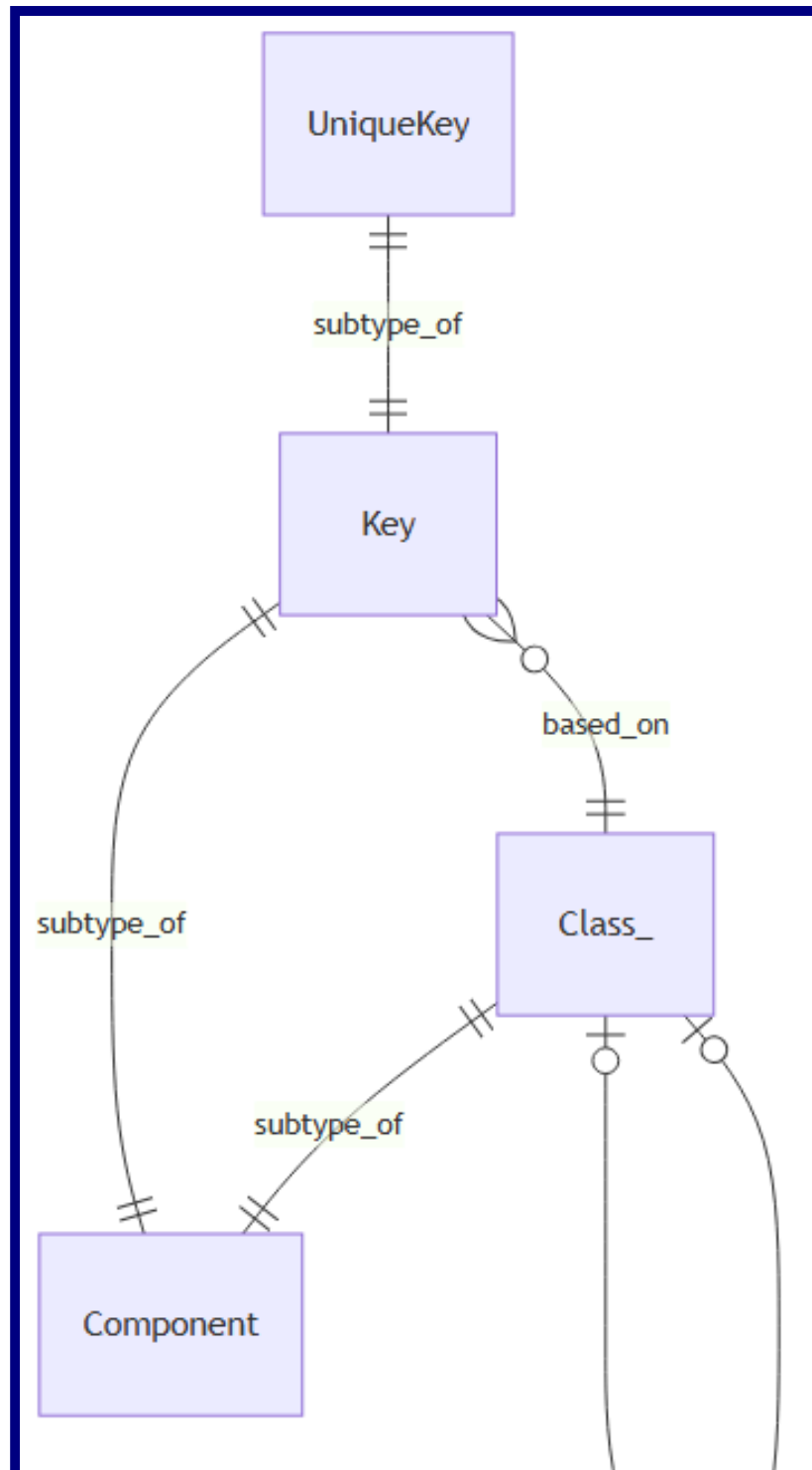
erDiagram

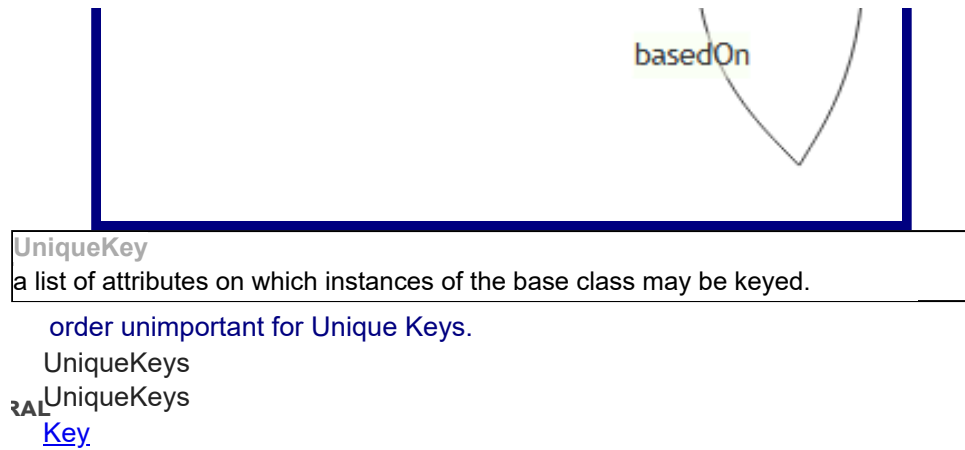
Class_ ||--|| Component : subtype_of
Class_ }o--o| Class_ : basedOn
Key ||--|| Component : subtype_of
Key }o--|| Class_ : based_on
UniqueKey ||--|| Key : subtype_of

Mermaid ER Diagram for Key - Live!

```
erDiagram
    Class_ ||--|| Component : subtype_of
    Class_ |o--o| Component : subtype_of
    Class_ : basedOn Key ||--|| Component : subtype_of
    Class_ : based_on UniqueKey ||--|| Key : subtype_of
```

Mermaid ER Diagram for Key - PNG for mermaid





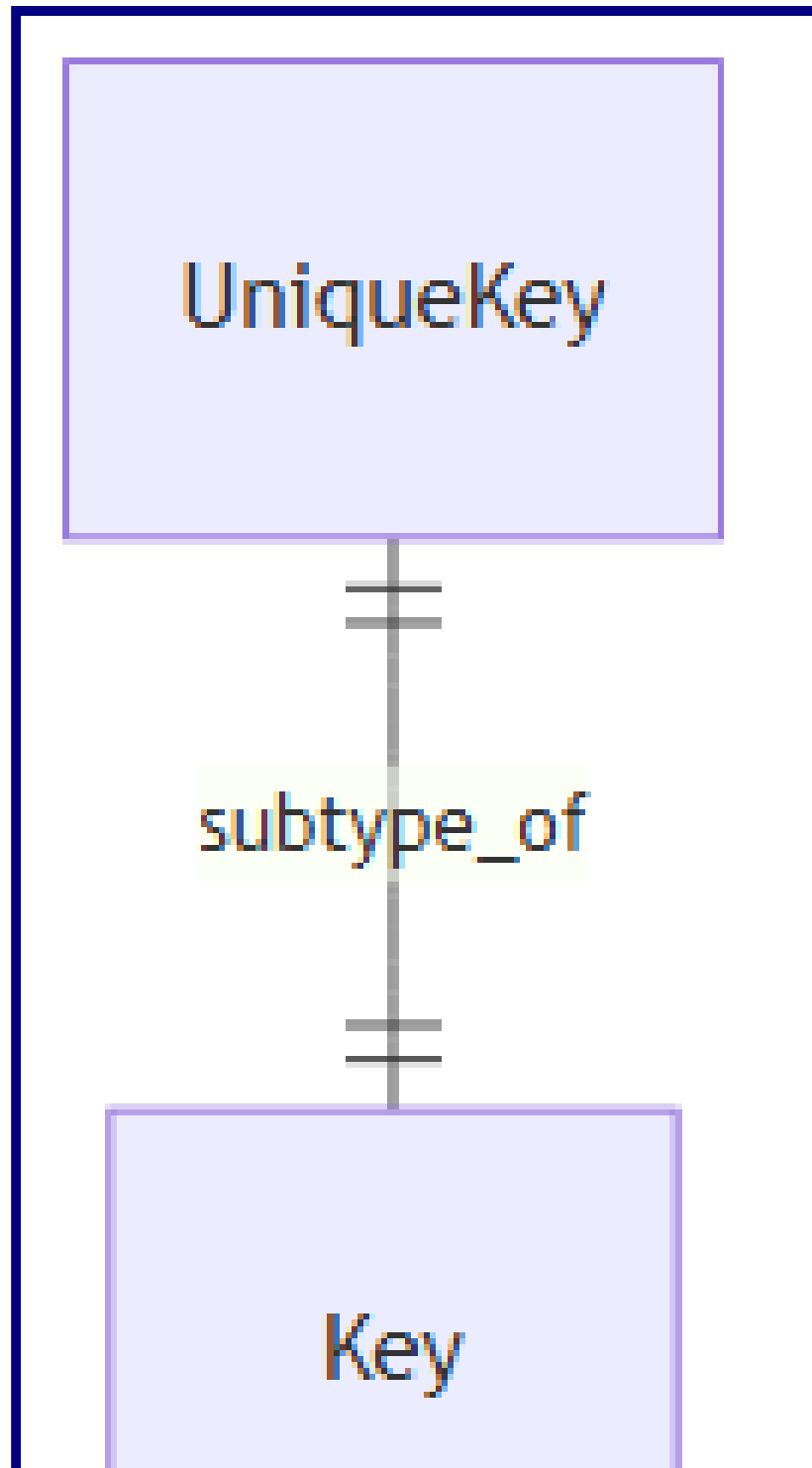
Mermaid ER Diagram for UniqueKey - Inert

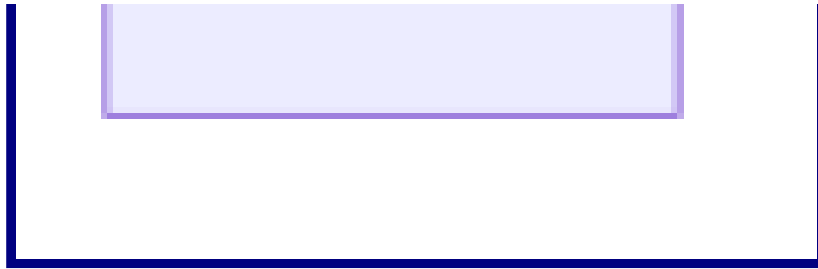
erDiagram
UniqueKey ||--|| Key : subtype_of

Mermaid ER Diagram for UniqueKey - Live!

erDiagram UniqueKey ||--|| Key : subtype_of

Mermaid ER Diagram for UniqueKey - PNG for mermaid





Attributes

AttributeSection

a group of attributes for a class that merit a shared explanation.

AttributeSections
AttributeSections
[Class](#)
[Attribute](#)
[Component](#)

whether the attributes in this section, taken together, are optional.

([Boolean value O_O](#))

If the Attribute Section is required, then each Attribute within the section is optional or required, depending on how it is marked.

-
- But if the Attribute Section is optional each attribute in the section is only required if any attribute in the section is present.

inverse attribute for Class.attributeSections from which this was implied.

([Class value M_1](#))

[Class.attributeSections](#)

A link back to the Class on which this AttributeSection depends.

([Class value M_1](#))

Mermaid ER Diagram for AttributeSection - Inert

erDiagram

Class_ ||--|| Component : subtype_of

Class_ }o--o| Class_ : basedOn

AttributeSection ||--|| Component : subtype_of

AttributeSection }o--|| Class_ : based_on

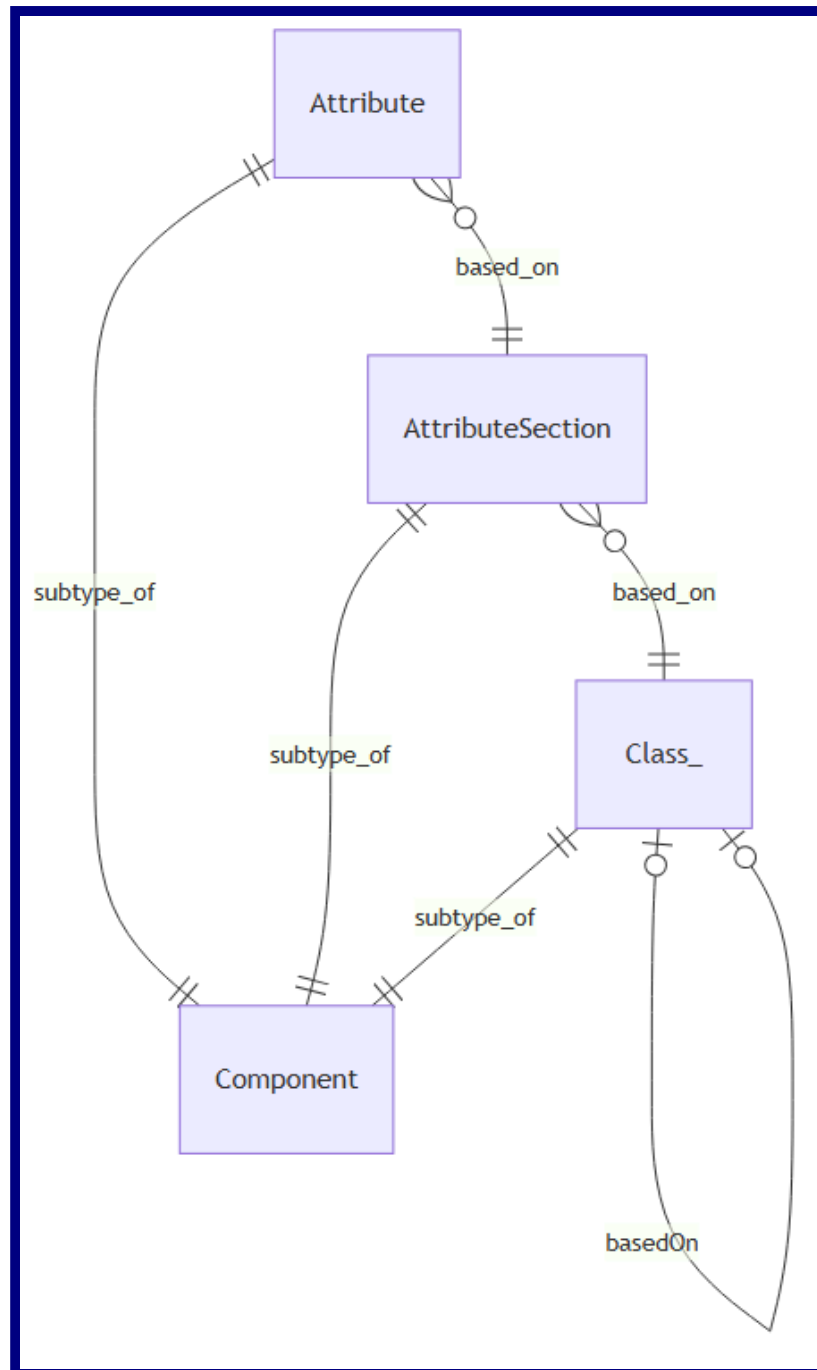
Attribute ||--|| Component : subtype_of

Attribute }o--|| AttributeSection : based_on

Mermaid ER Diagram for AttributeSection - Live!

```
erDiagram
    Class_ ||--|| Component : subtype_of
    Class_ |o--o| AttributeSection : basedOn
    Component ||--|| AttributeSection : subtype_of
    Component ||--|| AttributeSection : based_on
    AttributeSection ||--|| Component : subtype_of
    AttributeSection }o--|| Class_ : based_on
```

Mermaid ER Diagram for AttributeSection - PNG for mermaid



Attribute

A property or characteristic of a class

Attributes

[AttributeSection](#)

[AttributeConstraint](#)

[Component](#)

([LowerCamel](#) value O_O)

[Component.name](#)

The kind of object to which the attribute refers. _

([DataType](#) value O_O)

But,

- - List of Editions
- - Set of Edition
- - ... and more complicated cases.

the section below on Data Type Specifiers.

Indicates whether the attribute must have a value for every instance of the class _

([Boolean](#) value O_O)

*** False

The cardinality of the relationship represented by the attribute _

([CardinalityCode](#) value O_O)

*** For a singular attribute, the default cardinality is N:1. If the attribute is 1:1, it must be stated explicitly. For a collective attribute, the default is 1:N. If the attribute is N:M, it must be stated explicitly.

([InventedName](#) value O_O)

([Optional](#) [InventedName](#) value O_O)

how this works with optionality

(Boolean value O_O)
true if the data type is a class or a simple collection of members of a class.
the class which contains, or would contain the inverse attribute
(Optional Class value O_O)
from the data type. Null unless attribute is invertible.
(Optional Attribute value O_O)
(Optional Attribute value O_O)
The rule or formula for calculating the value, if no value is supplied Now running to a second line with the parenthetical on yet a third line
(Optional Derivation value O_O)
even when an Attribute has a default derivation, there's no guarantee that every instance will have an assigned value. Example needed.
For derived attributes, the rule or formula for calculating the value _
(Optional Derivation value O_O)
on insert vs on access?
Any validation rules specific to this attribute _
(List of Constraints value O_O)
from Class.constraints
Inverse attribute for Class.attributes from which this was implied.
(Class value M_1)
Class.attributes
Inverse attribute for Key.keyAttributes from which this was implied.
(Key value M_1)
Key.keyAttributes
A link back to the AttributeSection on which this Attribute depends.

([AttributeSection](#) value *M_1*)

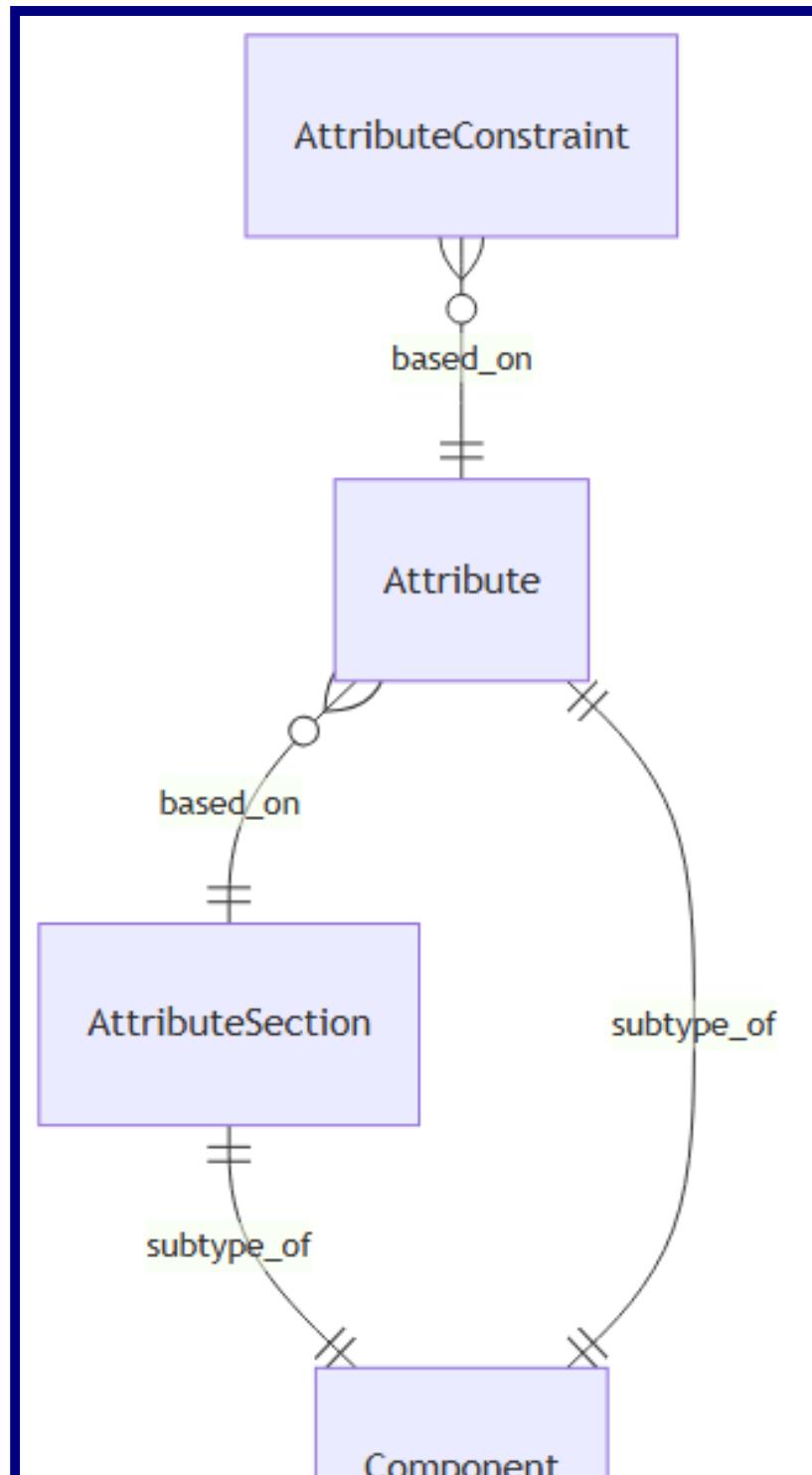
Mermaid ER Diagram for Attribute - Inert

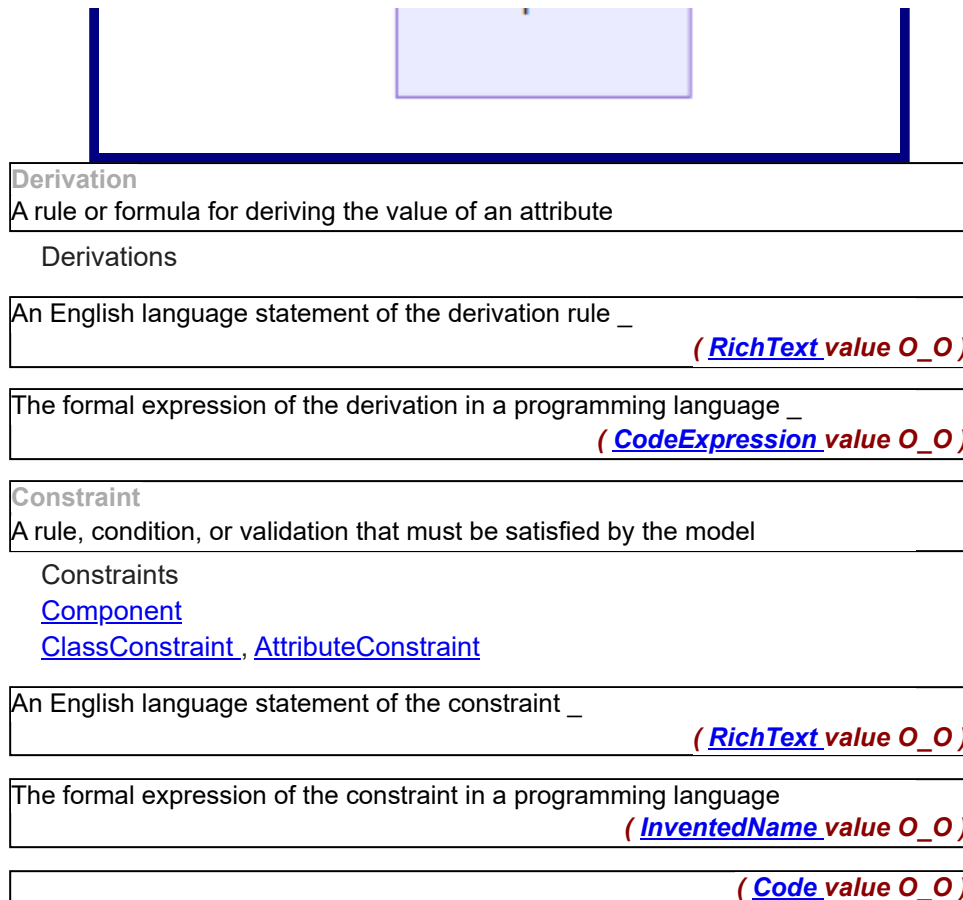
```
erDiagram
    AttributeSection ||--|| Component : subtype_of
    Attribute ||--|| Component : subtype_of
    Attribute }o--|| AttributeSection : based_on
    AttributeConstraint }o--|| Attribute : based_on
```

Mermaid ER Diagram for Attribute - Live!

```
erDiagram
    AttributeSection ||--|| Component : subtype_of
    AttributeSection ||--|| Component : subtype_of
    AttributeSection }o--|| AttributeSection : based_on
    AttributeConstraint }o--|| Attribute : based_on
```

Mermaid ER Diagram for Attribute - PNG for mermaid





Warning, nothing fatal; just a caution
Error, serious. Fix now

Mermaid ER Diagram for Constraint - Inert

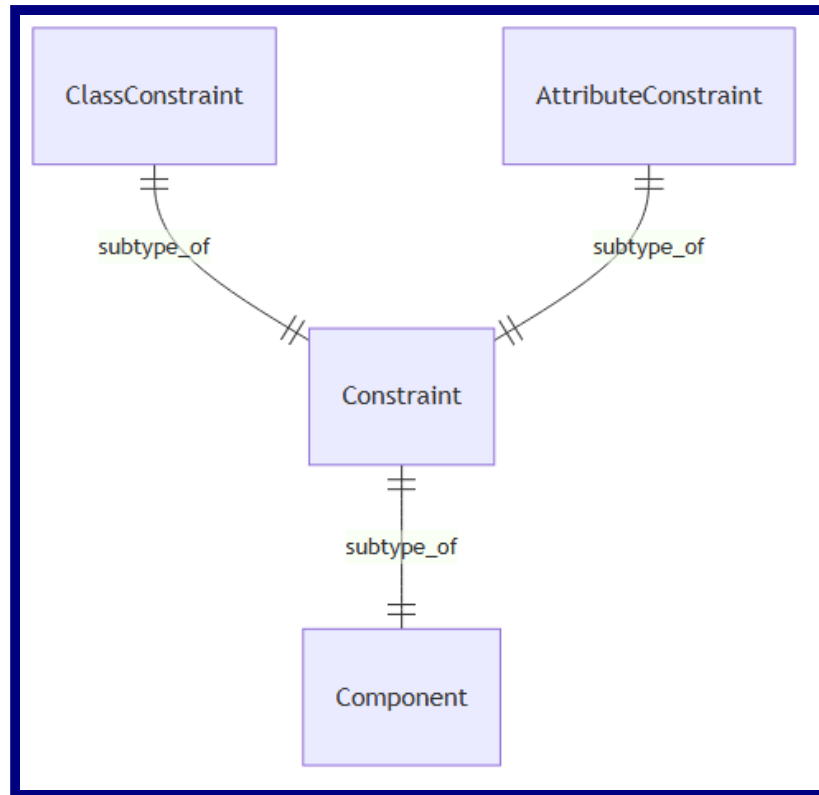
erDiagram

Constraint ||--|| Component : subtype_of
ClassConstraint ||--|| Constraint : subtype_of
AttributeConstraint ||--|| Constraint : subtype_of

Mermaid ER Diagram for Constraint - Live!

erDiagram
 Constraint ||--|| Component : subtype_of
 ClassConstraint ||--|| Constraint : subtype_of
 AttributeConstraint ||--|| Constraint : subtype_of

Mermaid ER Diagram for Constraint - PNG for mermaid



ClassConstraint

ClassConstraints
 rAI ClassConstraints
[Class](#)
[Constraint](#)

A link back to the Class on which this ClassConstraint depends.
 ([Class value M_1](#))

Mermaid ER Diagram for ClassConstraint - Inert

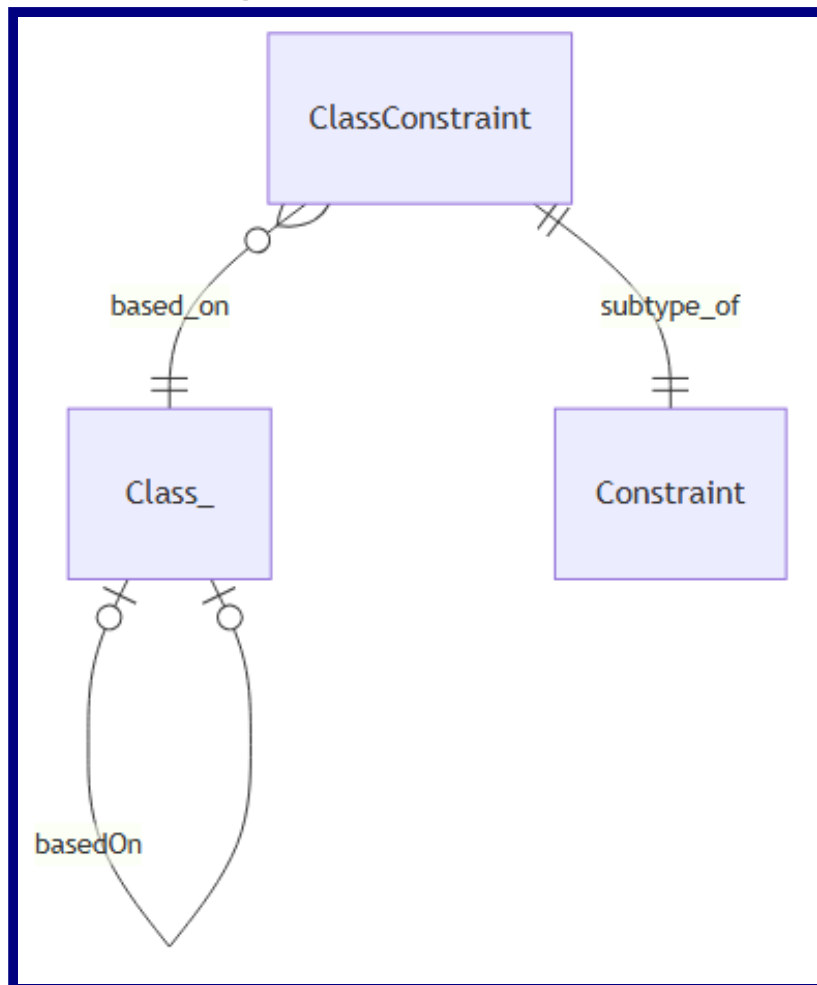
erDiagram
Class_ ||o--o| Class_ : basedOn

ClassConstraint ||--|| Constraint : subtype_of
ClassConstraint }o--|| Class_ : based_on

Mermaid ER Diagram for ClassConstraint - Live!

```
erDiagram
    Class_ ||--o| Class_ : basedOn
    ClassConstraint ||--|| Constraint : subtype_of
    ClassConstraint }o--|| Class_ : based_on
```

Mermaid ER Diagram for ClassConstraint - PNG for mermaid



AttributeConstraint

AttributeConstraints
 AttributeConstraints
[Attribute](#)
[Constraint](#)

A link back to the Attribute on which this AttributeConstraint depends. (Attribute value M_1)

Mermaid ER Diagram for AttributeConstraint - Inert

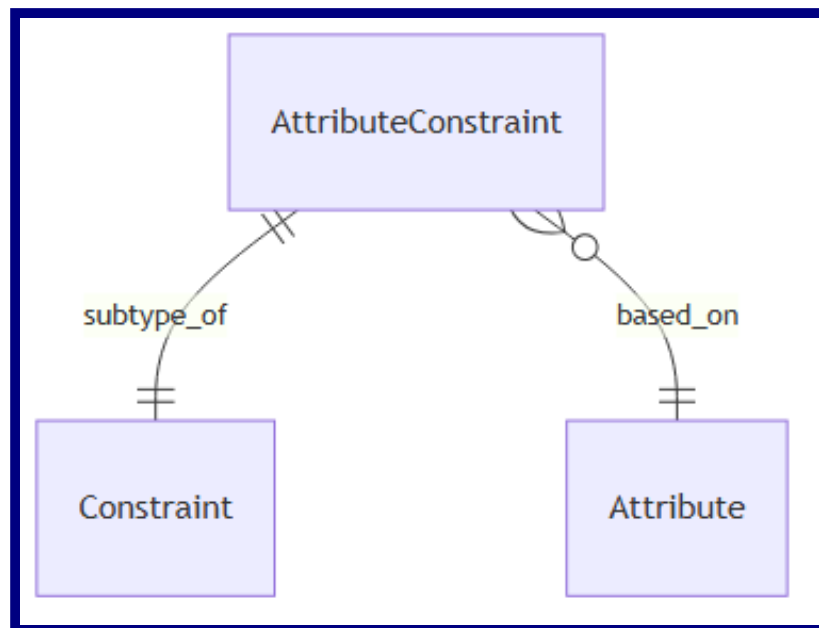
erDiagram

AttributeConstraint ||--|| Constraint : subtype_of
AttributeConstraint }o--|| Attribute : based_on

Mermaid ER Diagram for AttributeConstraint - Live!

erDiagram AttributeConstraint ||--|| Constraint : subtype_of
AttributeConstraint }o--|| Attribute : based_on

Mermaid ER Diagram for AttributeConstraint - PNG for mermaid



Methods

Method
A behavior or operation associated with a class
Methods Component
The input parameters of the method _ (<i>List of Parameters value O_O</i>) ParameterAnInputToAMethod.inverseOfParameters
The data type of the value returned by the method _ (<i>DataType value O_O</i>)
Inverse attribute for Class.methods from which this was implied. (<i>Class value M_1</i>) Class.methods

Mermaid ER Diagram for Method - Inert

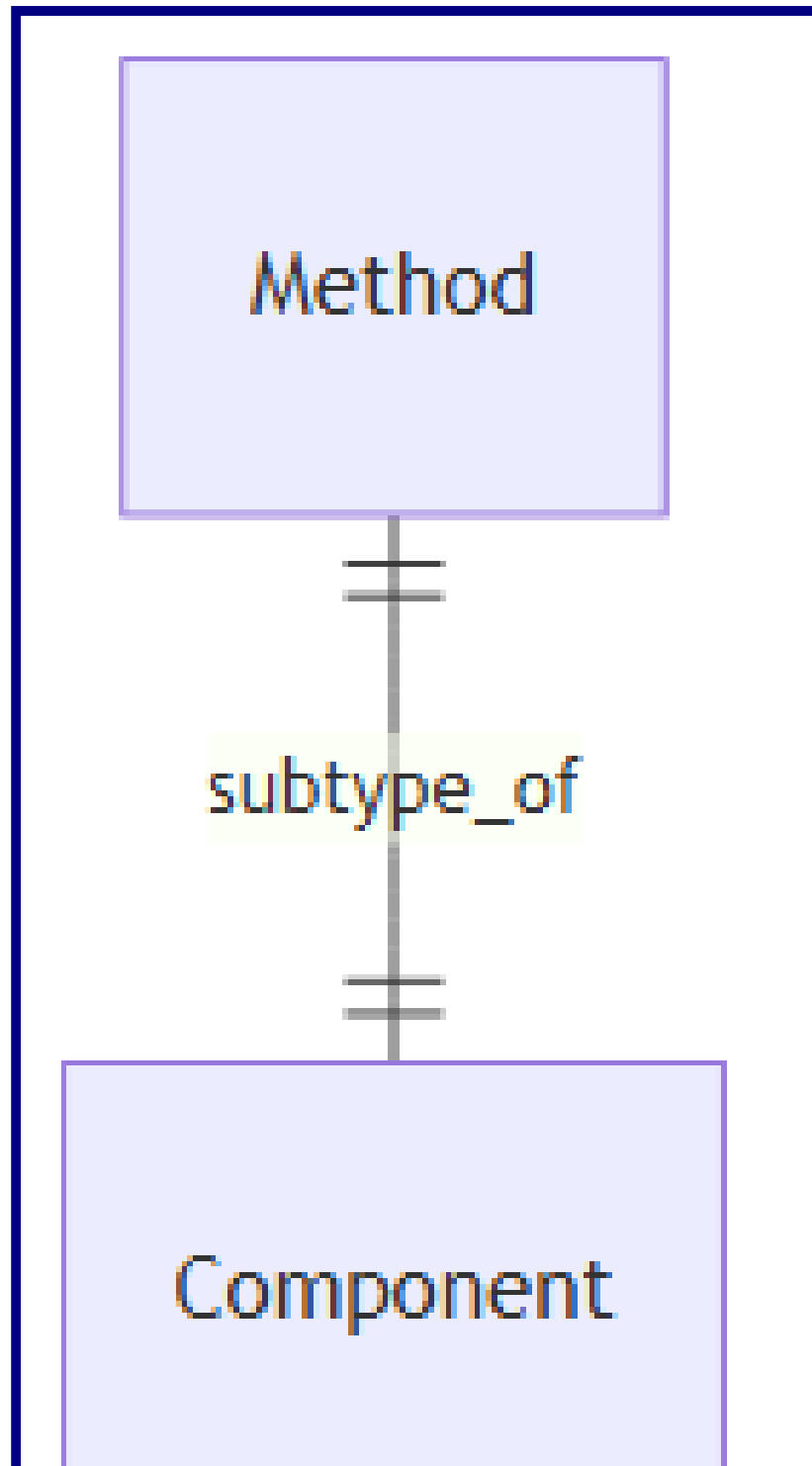
erDiagram

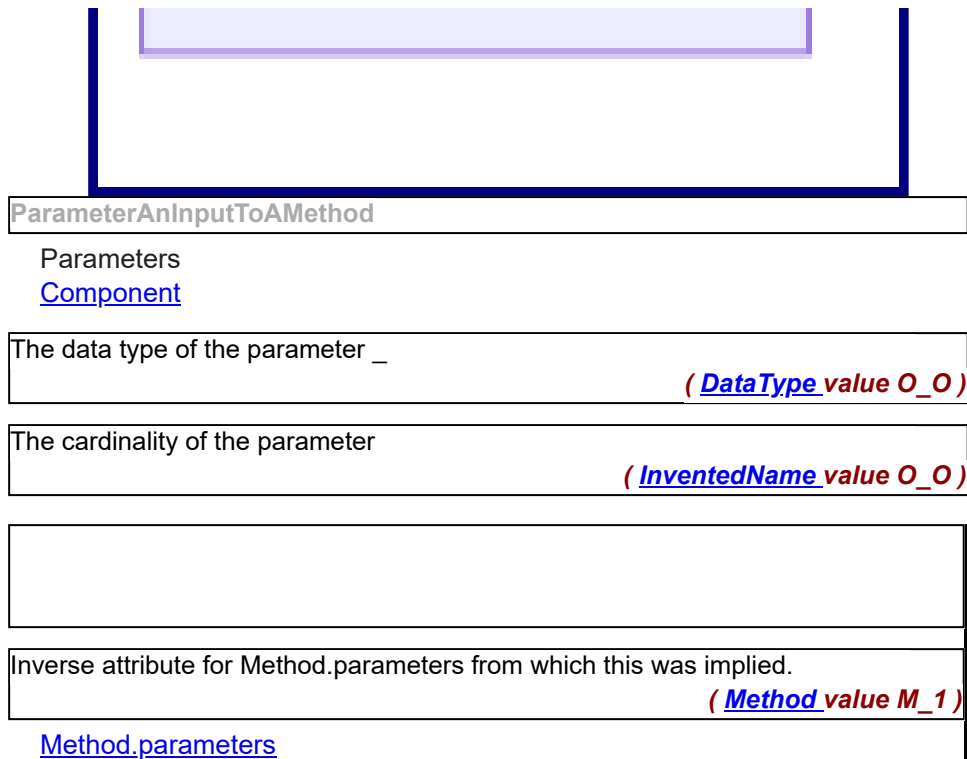
Method ||--|| Component : subtype_of

Mermaid ER Diagram for Method - Live!

erDiagram Method ||--|| Component : subtype_of

Mermaid ER Diagram for Method - PNG for mermaid





Mermaid ER Diagram for ParameterAnInputToAMethod - Inert

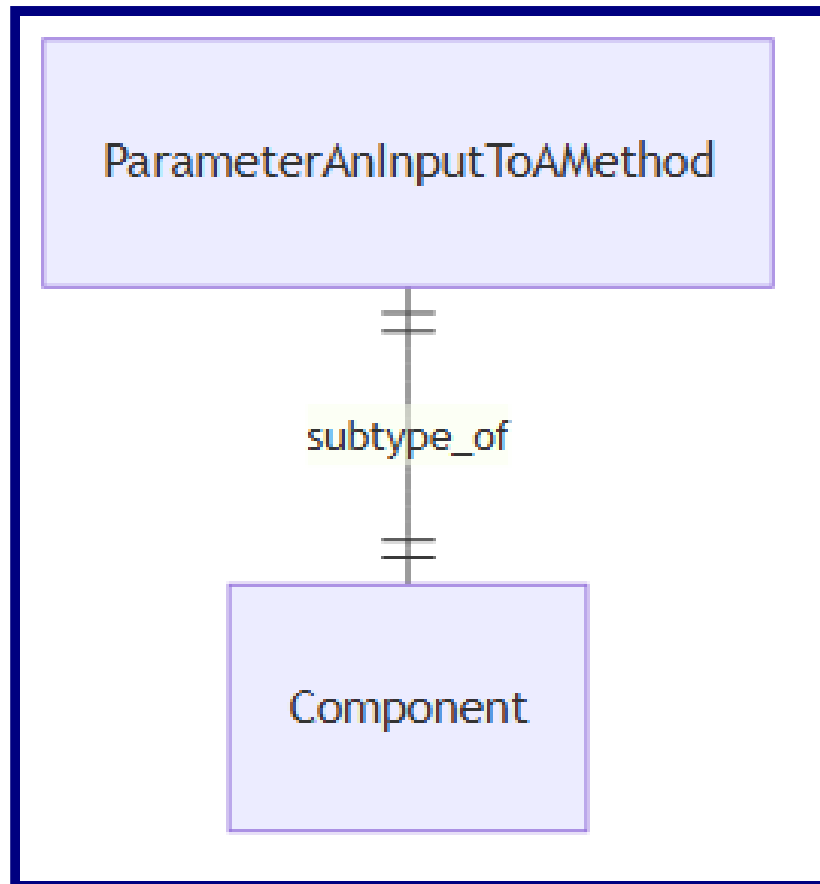
erDiagram

**ParameterAnInputToAMethod ||--|| Component :
subtype_of**

Mermaid ER Diagram for ParameterAnInputToAMethod - Live!

erDiagram ParameterAnInputToAMethod ||--|| Component :
subtype_of

Mermaid ER Diagram for ParameterAnInputToAMethod - PNG for
mermaid



Trivial Data Types

Message

Messages
raMessages

Message is trivial; no diagram

CodeExpression

CodeExpressions
raCodeExpressions

the programming language
([Code](#) value O_O)

|| OCL, Object Constraint Language
Java, Java

([String](#) value O_O)

CodeExpression is trivial; no diagram

DataType

DataTypes
raDataTypes

DataType is trivial; no diagram

SimpleDataTypeSubtpeOfDataType

SimpleDataTypeSubtpeOfDataTypes
raSimpleDataTypeSubtpeOfDataTypes

([Class](#) value O_O)

[Class.inverseOfCoreClass](#)

SimpleDataTypeSubtpeOfDataType is trivial; no diagram

ComplexDataType

ComplexDataTypes
raComplexDataTypes

([AggregatingOperator](#) value O_O)

([List of DataTypes](#) value O_O)

ComplexDataType is trivial; no diagram

AggregatingOperator

AggregatingOperators
RAIAggregatingOperators

([Code](#) value O_O)

SetOf
ListOf
Mapping

([Integer](#) value O_O)

([Template](#) value O_O)

AggregatingOperator is trivial; no diagram

Trivial Low level Data Types

insert Camel Case.md

Emoji

Emojis
RAIEmojis

Emoji is trivial; no diagram

String

Strings
RAIStrings

String is trivial; no diagram

CamelName

A short string without punctuation or spaces, suitable for names, labels, or identifiers and presented in camel case.

CamelNames
RAICamelNames

[String](#)
[UpperCamel](#), [LowerCamel](#)

([String_value O_O](#))

Must follow the camel case naming convention and not be empty.
"firstName", "orderDate", "customerID"

- *CamelName* is presented here, just after its first usage by another class (Component), to provide context and understanding before it is used further in the model.

CamelName is trivial; no diagram

UpperCamel

a CamelName that begins with a capital letter

[_ "Customer", "ProductCategory", "PaymentMethod"](#)
content begins with an upper case letter.
UpperCamels
RAIUpperCamels
[CamelName](#)

UpperCamel is trivial; no diagram

LowerCamel
a CamelName that begins with a lower case letter
"firstName", "orderTotal", "shippingAddress"
content begins with a lower case letter.
LowerCamels
LowerCamels
CamelName

LowerCamel is trivial; no diagram

QualifiedCamel
an expression consisting of Camel Names separated by periods
QualifiedCamels
QualifiedCamels
String

content consists of CamelNames, separated by periods. Each of the camel names must be Upper Camel except, possibly, the first.

QualifiedCamel is trivial; no diagram

ValueTypeRichText
A string with markup for block level formatting.
ValueTypeRichTexts
ValueTypeRichTexts
String
the string content
(String_value O_O)
the rich text coding language used
(Code_value O_O)

HTML
MarkDown

ValueTypeRichText is trivial; no diagram

OneLiner
String with markup for line level formatting.

OneLiners
RAIOneLiners
[RichText](#)

the string content
([String_value O_O](#))

must not contain a line break or new line character
A line can't span two lines

OneLiner is trivial; no diagram

PrimitiveType
A basic, built-in data type

PrimitiveTypes
RAIPrimitiveTypes
[String](#), [Integer](#), [Decimal](#), [Boolean](#), [Date](#), [Time](#), [DateTime](#)

PrimitiveType is trivial; no diagram

String

Strings
RAIStrings
[PrimitiveType](#)
[CamelName](#), [QualifiedCamel](#), [ValueTypeRichText](#)

String is trivial; no diagram

Integer

Integers
RAIIntegers
[PrimitiveType](#)

Integer is trivial; no diagram

Decimal

Decimals
RAIDecimals
[PrimitiveType](#)

Decimal is trivial; no diagram

Boolean

Booleans
RAIBooleans
[PrimitiveType](#)

Boolean is trivial; no diagram

Date

Dates
RAIDates
[PrimitiveType](#)

Date is trivial; no diagram

Time

Times
RAITimes
[PrimitiveType](#)

Time is trivial; no diagram

DateTime

DateTimes
RAIDateTimes
[PrimitiveType](#)

DateTime is trivial; no diagram

Annotation Types Used

These are the recognized Annotation Types for the LDM model.

And this is how you register the AnnotationType for a model. By including this sort of array in the DSL document for the model.

PlantUML Diagram - Inert

@startjson

```
[
{
  "label": "Error",
  "emoji": "❌",
  "emojiName": "cross_mark",
  "emojiUnicode": "U+274C",
  "purpose": "Indicates a critical error or failure in
the model."
},
{
  "label": "Warning",
  "emoji": "⚠️",
  "emojiName": "warning",
  "emojiUnicode": "U+26A0",
  "purpose": "Indicates a potential issue or warning
in the model."
},
{
  "label": "Note",
  "emoji": "📘",
  "emojiName": "blue_book",
  "emojiUnicode": "U+1F4D8",
  "purpose": "Provides additional context,
explanations, or clarifications for the annotated
element."
},
{
  "label": "Issue",
  "emoji": "⚠️",
  "emojiName": "warning",
  "emojiUnicode": "U+26A0",
```

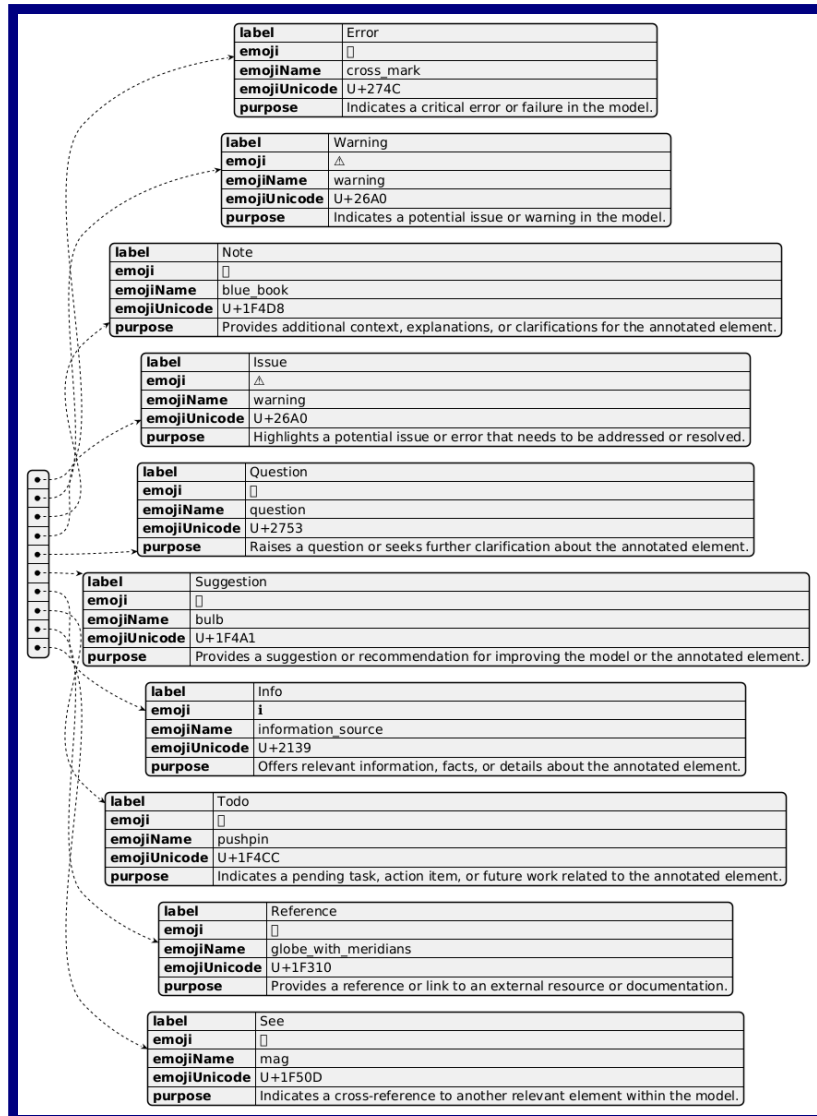
```

"purpose": "Highlights a potential issue or error
that needs to be addressed or resolved."
},
{
"label": "Question",
"emoji": "❓",
"emojiName": "question",
"emojiUnicode": "U+2753",
"purpose": "Raises a question or seeks further
clarification about the annotated element."
},
{
"label": "Suggestion",
"emoji": "💡",
"emojiName": "bulb",
"emojiUnicode": "U+1F4A1",
"purpose": "Provides a suggestion or
recommendation for improving the model or the
annotated element."
},
{
"label": "Info",
"emoji": "ℹ️",
"emojiName": "information_source",
"emojiUnicode": "U+2139",
"purpose": "Offers relevant information, facts, or
details about the annotated element."
},
{
"label": "Todo",
"emoji": "📌",
"emojiName": "pushpin",
"emojiUnicode": "U+1F4CC",
"purpose": "Indicates a pending task, action item,
or future work related to the annotated element."
},
{
"label": "Reference",
"emoji": "🌐",
"emojiName": "globe_with_meridians",
"emojiUnicode": "U+1F310",

```


```
"purpose": "Provides a reference or link to an
external resource or documentation."
},
{
  "label": "See",
  "emoji": "🔍",
  "emojiName": "mag",
  "emojiUnicode": "U+1F50D",
  "purpose": "Indicates a cross-reference to another
relevant element within the model."
}
]
@endjson
```


PlantUML Diagram - PNG for puml





Annotation types as CSV


label,emoji,emojiName,emojiUnicode,purpose


Error, ,cross mark,U+274C,Indicates a critical error or failure in the model.


Warning, ,warning,U+26A0,Indicates a potential issue or warning in the model.


Note, ,blue book,U+1F4D8,"Provides additional context, explanations, or clarifications for the annotated element."


Issue, ,warning,U+26A0,Highlights a potential issue or error that needs to be addressed or resolved.


Question, ,question,U+2753,Raises a question or seeks further clarification about the annotated element.











Suggestion, ,bulb,U+1F4A1,Provides a suggestion or recommendation for improving the model or the annotated element.

Info, ,information_source,U+2139,"Offers relevant information, facts, or details about the annotated element."

Todo, ,pushpin,U+1F4CC,"Indicates a pending task, action item, or future work related to the annotated element."

Reference, ,globe with meridians,U+1F310,Provides a reference or link to an external resource or documentation.

See, ,mag,U+1F50D,Indicates a cross-reference to another relevant element within the model.

	label	emoji	emojiName	emojiUnicode	purpose
0	Error		cross_mark	U+274C	Indicates a critical error or failure in the model.
1	Warning		warning	U+26A0	Indicates a potential issue or warning in the model.
2	Note		blue_book	U+1F4D8	Provides additional context, explanations, or clarifications for the annotated element.
3	Issue		warning	U+26A0	Highlights a potential issue or error that needs to be addressed or resolved.
4	Question		question	U+2753	Raises a question or seeks further clarification about the annotated element.
5	Suggestion		bulb	U+1F4A1	Provides a suggestion or recommendation for improving the model or the annotated element.
6	Info		information_source	U+2139	Offers relevant information, facts, or details about the annotated element.
7	Todo		pushpin	U+1F4CC	Indicates a pending task, action item, or future work related to the annotated element.
8	Reference		globe_with_meridians	U+1F310	Provides a reference or link to an external resource or documentation.
9	See		mag	U+1F50D	Indicates a cross-reference to another relevant element within the model.

Appendices

various sidebars to include Insert More Sidebars.md Insert Overrides.md insert
LDM Intro.md Insert OCL.md Insert Camel Case.md

== content to add