

Task 9

Educational objectives:

- Being able to search for information in the UML specification.
- Being able to instantiate the abstract syntax of UML specified in Ecore.

Exercise 1:

Download file “FirstModel.uml”. Create a new Empty EMF project and import it. The extension *.uml indicates that it is a UML model created by instantiating the UML meta model represented in Ecore.

Open it with the Sample Reflective Ecore Model Editor.

If you validate the whole model three errors will be reported. These errors document that FirstModel is not a proper model in the sense of the UML specification. Locate the errors in one of the model’s elements shown, i.e. instead of validating the whole model validate its parts and identify the meta class actually containing the problem.

Search for an explanation of the problem in the UML specification.

Fill in the following table in order to document your results:

| Error message shown by the validator | Meta class containing the problem | Chapter of the UML specification introducing this meta class (a number between 1 and 22) | Exact page number where the problem is explained in the UML specification | Information found in the specification explaining the problem |
|--------------------------------------|-----------------------------------|--|---|---|
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Exercise 2:

Correct the problems shown by the validation of the FirstModel either by changing the value of an attribute or by extending the model. Save the result as file “FirstModelCorrected.uml”.

Exercise 3:

A model in UML may consist of more than one diagram. Imagine you want to present a representation of the FirstModel in concrete syntax. How many diagrams would you have to draw? Explain the structure of the model, i.e. how the different diagrams are related.

Provide these diagrams as far as possible.

Exercise 4:

Open your solution of exercise 2 using the XML Editor. Interesting additional information visible in this view are the names of the references to contained elements.

How does a model refer to its contained classes? Note that one of the properties is derived. Provide a screenshot of the class diagram introducing the abstract syntax of models in the UML specification and highlight the according information in that diagram.

Note that two different properties are used to refer to statemachines. Provide screenshots of abstract syntax diagrams from the UML specification explaining these references in a similar way.

Exercise 5:

Download file “EmptyModel.uml”. Open it using the Sample Reflective Ecore Model Editor. Complete it until it is equivalent to your solution of exercise 2.