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# ObjectMath Inheritance and Composition Diagram Editor

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**Abstract**

ObjectMath is a new object-oriented modeling language for scientific computing. The major innovation of this language is the introduction of object-oriented structure into a computer algebra language making it possible to group equations and formulae into classes. ObjectMath contains three object-oriented structuring constructs (class, instance and part) providing classes, single and multiple inheritance and composition of parts. Typical models in ObjectMath include between 10 and 30 such constructs. Inheritance and composition relationships are established between them. The problem is how to inspect, browse, and modify these relations in a convenient way. Our solution to this problem is using a graphical two-dimensional diagram editor connected to a text editor. An integrated programming environment for ObjectMath includes this editor. The report describes how object-oriented constructs of ObjectMath are mapped to their graphical representation. The ObjectMath syntax rules are mapped to diagram editor operations so that only syntactically correct models can be created.

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