## Class

## On this page

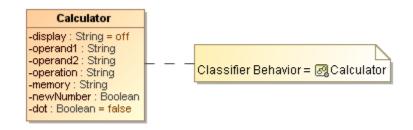
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- Initialization of value properties using Arrays of default values
- Automatic instantiation of the implementation Class

You can run a Class element that is not a Behavior. Cameo Simulation Toolkit will initialize an object from the selected Class. The default value of its parts and properties will be used for initialization. If the selected Class has a defined Classifier Behavior which is Activity, State Machine or Interaction, it will also be simulated. For example, if you execute the Calculator.mdzip Class, the simulation will be performed on the Calculator State Machine as shown in the fig ure Animation of a State Machine Simulation in the State Machine section.

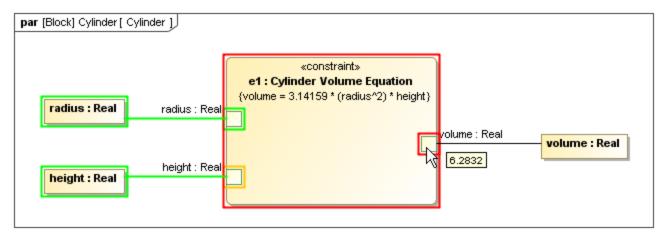


State Machine as the Classifier Behavior of the Calculator Class.

If the Class does not have a Classifier Behavior, Cameo Simulation Toolkit will initialize the object from the selected Class and show its values and parts in the **Variables** pane. For a SysML model, Cameo Simulation Toolkit will update the values within the object with the constraint properties and the binding connectors. Therefore, you can manipulate the values of the object when working with the parametric model of the Class.

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constraints e1 : Cylinder Volume B		Symbol Properties	Alt+Enter		
values  radius : Real = 1.0  height : Real = 2.0		Element Group	•		
		Create Diagram	•		
_		Go To	•		
	8	Select in Containment Tree	Alt+B		
	暍	Select in Structure Tree			
		Related Elements	•		
		Refactor	•		
		Tools	•		
		Edit Compartments			
		Stereotype			
		Simulation	•		Run (Ctrl+Alt+X)
				•_+	Add Breakpoint(s)
				•_	Remove Breakpoint(s)

Running a SysML block that has no defined Classifier Behavior.

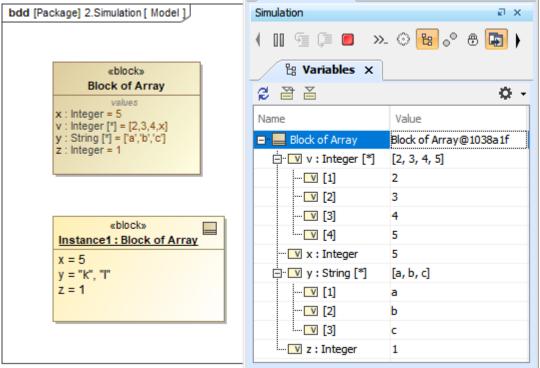




You can simulate a system even though there is no Classifier Behavior in either the parent or its subsystems. When Cameo Simulation Toolkit runs the system, all Classifiers that have or do not have Classifier Behaviors will be simulated. The simulation will run the system and will stop only if you terminate it by clicking the **Stop** button.

## Initialization of value properties using Arrays of default values

Cameo Simulation Toolkit supports use of Arrays in Class/Block as a data type. A primitive value type, e.g., String, Boolean, Integer, and Real, as a value property with a default value using an Array can be initialized. The value property is shown in tree control structure on the **Variables** pane as shown in the figure below.



Primitive value types are initialized as value properties with default values using Arrays.

Furthermore, the value property name as a variable can be used as a member of an Array. For example, x = 5 and v = [2, 3, 4, x] make the initialized v = [2, 3, 4, 5].

A Note

• The initialization through an instance replaces the default value in the Array of the Block.

• Any missing values in Array slots are replaced by default values from the Array of the Block.

Automatic instantiation of the implementation Class

Simulation Toolkit supports automatic instantiation of an implementation Class, if the super Class is abstract (Is Abstract = true).

there are multiple implementation Classes, Simulation Toolkit will randomly choose one. «block» Simulation Computer Simulation a x Ð ». 🛞 铝 👴 🕀 ŧ G - **F** «block» «block» Monitor Case 🗄 Variables 🗙 Monitor Case /alues dvi:Real dvi: Reat 🗲 🎬 👗 Time: 00 : 00 : 00 , 000 🔅 🝷 port : Integer = 4 RAM CPU1 CPU2 Name Value «block» «block» ⊡... Computer Memory Computer@248b3720 CPU ١ cache E Case : Case Desktop@7f720d1d «block» ١ LCD - 🗋 dvi : Real 12345.0000 «block» «block» «block» 🗄 🕞 CPU1 : CPU Intel@73ea49c2 Intel AMD Desktop Intel@82dcb40 🗄 🖳 🕑 CPU2 : CPU Auto-instantiation Is Abstract RAM : Mem... Memory@586d3606 E P Monitor : Monitor LCD@5a3beda7 - 📜 dvi : Real 12345.0000 🛄 🗹 port : Integer 4

Automatic instantiation of the implementation Class if the super Class is abstract.

## **Related pages**

- Animation of a State Machine Simulation
- Classifier Behavior property