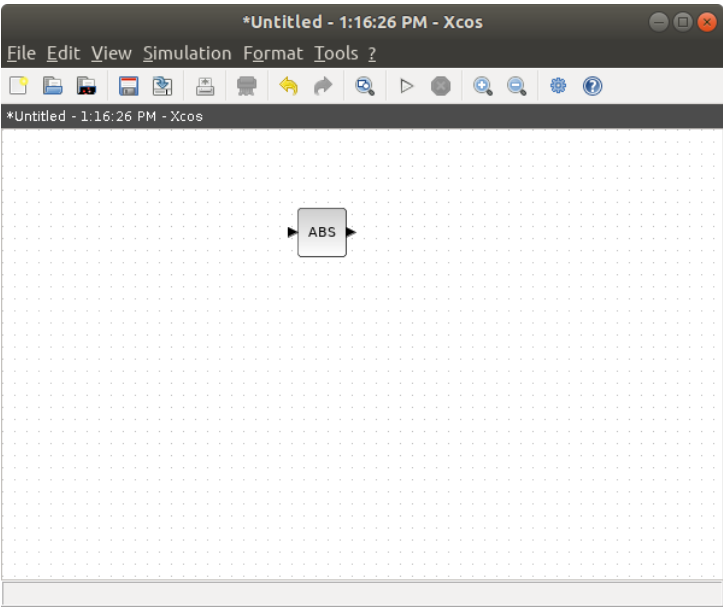


Absolue_value



XML file: *abs.xcos*

```
Open  abs.xcos  Save  ~/.Scilab/scilab-6.0.1
<?xml version="1.0" ?>
<XcosDiagram debugLevel="0" finalIntegrationTime="100000.0" integratorAbsoluteTolerance="1.0E-6" integratorRelativeTolerance="1.0E-6"
toleranceOnTime="1.0E-10" maxIntegrationTimeInterval="100001.0" maximumStepSize="0.0" realTimeScaling="0.0" solver="1.0" background="-1"
gridEnabled="1" title="Untitled"><!--Xcos - 2.0 - scilab-6.0.1 - 20190319 1251-->
  <Array as="context" scilabClass="String[]"></Array>
  <mxGraphModel as="model">
    <root>
      <mxCell id="0:1:0"/>
      <mxCell id="0:2:0" parent="0:1:0"/>
      <BasicBlock id="377a5292:16b0244b376:-7ff9" parent="0:2:0" interfaceFunctionName="ABS_VALUE" blockType="c" dependsOnU="1" dependsOnT="0"
simulationFunctionName="absolute_value" simulationFunctionType="C_OR_FORTRAN" style="ABS_VALUE">
        <ScilabString as="exprs" height="1" width="1">
          <data line="0" column="0" value="1"/>
        </ScilabString>
        <ScilabDouble as="realParameters" height="0" width="0"/>
        <ScilabDouble as="integerParameters" height="0" width="0"/>
        <Array as="objectsParameters" scilabClass="ScilabList"/>
        <ScilabInteger as="nbZerosCrossing" height="1" width="1" intPrecision="sci_int32">
          <data line="0" column="0" value="-1"/>
        </ScilabInteger>
        <ScilabInteger as="nmode" height="1" width="1" intPrecision="sci_int32">
          <data line="0" column="0" value="-1"/>
        </ScilabInteger>
        <ScilabDouble as="state" height="0" width="0"/>
        <ScilabDouble as="dState" height="0" width="0"/>
        <Array as="oDState" scilabClass="ScilabList"/>
        <Array as="equations" scilabClass="ScilabList"/>
        <mxGeometry as="geometry" x="80.0" y="40.0" width="40.0" height="40.0"/>
      </BasicBlock>
      <ExplicitInputPort id="377a5292:16b0244b376:-7ff8" parent="377a5292:16b0244b376:-7ff9" ordering="1" dataType="REAL_MATRIX" dataColumns="1"
dataLines="1" initialState="0.0" style="ExplicitInputPort;align:left;verticalAlign:middle;spacing=10.0;rotation=0"/>
      <ExplicitOutputPort id="377a5292:16b0244b376:-7ff7" parent="377a5292:16b0244b376:-7ff9" ordering="1" dataType="REAL_MATRIX" dataColumns="1"
dataLines="1" initialState="0.0" style="ExplicitOutputPort;align:right;verticalAlign:middle;spacing=10.0;rotation=0"/>
    </root>
  </mxGraphModel>
  <mxCell as="defaultParent" id="0:2:0" parent="0:1:0"/>
</XcosDiagram>
```

```

</XML version="1.0" />
<XcosDiagram debugLevel="0" finalIntegrationTime="100000.0" integratorAbsoluteTolerance="1.0E-6" integratorRelativeTolerance="1.0E-6"
toleranceOnTime="1.0E-10" maxIntegrationTimeInterval="100001.0" maximumStepSize="0.0" realTimeScaling="0.0" solver="1.0" background="-1"
gridEnabled="1" title="Untitled"><!--Xcos - 2.0 - scilab-6.0.1 - 20190319 1251-->
  <Array as="context" scilabClass="String[]"></Array>
  <mxGraphModel as="model">

```

Simulation>Setup:

Set Parameters	
Final integration time	1.0E05
Real time scaling	0.0E00
Integrator absolute tolerance	1.0E-06
Integrator relative tolerance	1.0E-06
Tolerance on time	1.0E-10
Max integration time interval	1.00001E05
Solver kind	Sundials/CVODE - BDF - NEWTON
Maximum step size (0 means no limit)	0.0E00
<input type="button" value="Set Context"/> <input type="button" value="Ok"/> <input type="button" value="Cancel"/> <input type="button" value="Default"/>	

debugLevel:

This function is used to set the debug level of simulation.

- 0: no debugging.
- 1: light debugging information printout.
- 2: more information printout and execution of Debug Block if any in diagram.
- 3: silent debugging mode (no information printout) and execution of Debug Block if any in diagram.

FinalIntegrationTime:

final simulation time

integratorRelativeTolerance:

This tolerance is a measure of the error relative to the size of each solution component. Roughly, it controls the number of correct digits in all solution components, except those smaller than thresholds

The default, 1e-3, corresponds to 0.1% accuracy

integratorAbsoluteTolerance:

It is a threshold below which the value of the *i*th solution component is unimportant. The absolute error tolerances determine the accuracy when the solution approaches zero.

toleranceOnTime:

factor that controls how closely zero-crossing events must occur to be considered consecutive.

maxIntegrationTimeInterval:

maximum integration interval for each call to ode solver (sometimes needed to force restarting the call to solver)

maximumStepSize:

max step size used by solver.

Default: [0.0001,1.000E-06,1.000E-10,100001,0,0]

realTimeScaling:

realtimescale is the correspondence between simulation time and real time. (0 means no slowing down. A value of 1 means that each Scicos unit of time corresponds to one second. A value of 0.5 means that each Scicos unit of time corresponds to 500 milliseconds.)

solver:

solver is the choice of solver (0: lsodar, 100: daskr)

background:

Vector with two entries: background and foreground colors as Scilab colors.

gridEnabled:

If grid is enabled on background(1:Enabled,0:Disabled)

title:

file_name

context:

A vector of strings containing Scilab instructions defining Scilab variables to be used inside block's dialog box as symbolic parameters. All valid Scilab instructions can be used and also comments.

Size : number of lines of the context.

Type : column vector of strings.

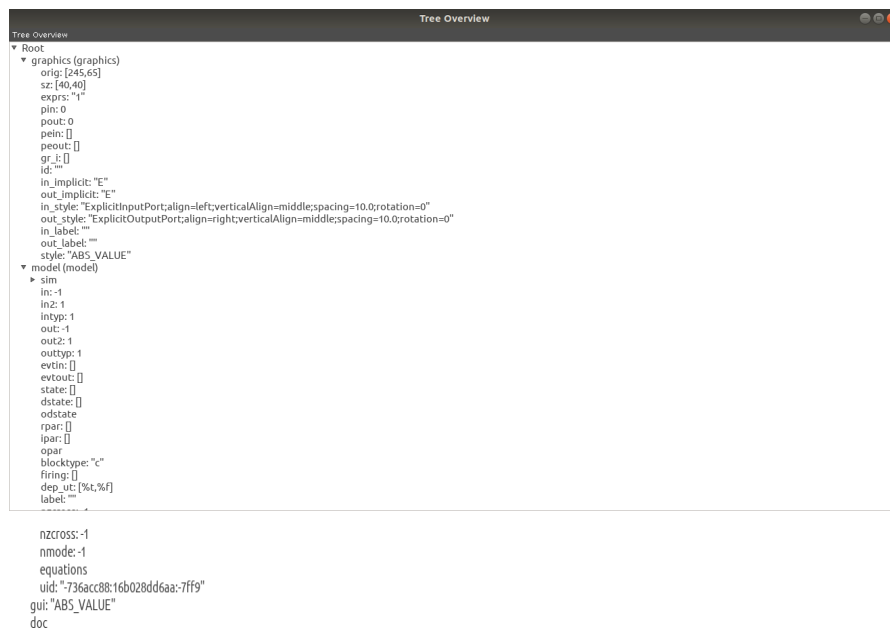
MxGraphModel:

The graph model acts as a wrapper around the cells which are in charge of storing the actual graph datastructure.

```

<root>
  <mxCell id="0:1:0"/>
  <mxCell id="0:2:0" parent="0:1:0"/>
  <BasicBlock id="377a5292:16b0244b376:-7ff9" parent="0:2:0" interfaceFunctionName="ABS_VALUE" blockType="c" dependsOnU="1" dependsOnT="0"
simulationFunctionName="absolute_value" simulationFunctionType="C_OR_FORTRAN" style="ABS_VALUE">
    <ScilabString as="exprs" height="1" width="1">
      <data line="0" column="0" value="1"/>
    </ScilabString>
    <ScilabDouble as="realParameters" height="0" width="0"/>
    <ScilabDouble as="integerParameters" height="0" width="0"/>
    <Array as="objectsParameters" scilabClass="ScilabList"/>
    <ScilabInteger as="nbZerosCrossing" height="1" width="1" intPrecision="sci_int32">
      <data line="0" column="0" value="-1"/>
    </ScilabInteger>
    <ScilabInteger as="nmode" height="1" width="1" intPrecision="sci_int32">
      <data line="0" column="0" value="-1"/>
    </ScilabInteger>
    <ScilabDouble as="state" height="0" width="0"/>
    <ScilabDouble as="dState" height="0" width="0"/>
    <Array as="oDState" scilabClass="ScilabList"/>
    <Array as="equations" scilabClass="ScilabList"/>
    <mxGeometry as="geometry" x="80.0" y="40.0" width="40.0" height="40.0"/>
  </BasicBlock>
  <ExplicitInputPort id="377a5292:16b0244b376:-7ff8" parent="377a5292:16b0244b376:-7ff9" ordering="1" dataType="REAL_MATRIX" dataColumns="1"
dataLines="-1" initialState="0.0" style="ExplicitInputPort;align=left;verticalAlign=middle;spacing=10.0;rotation=0"/>
  <ExplicitOutputPort id="377a5292:16b0244b376:-7ff7" parent="377a5292:16b0244b376:-7ff9" ordering="1" dataType="REAL_MATRIX" dataColumns="1"
dataLines="-1" initialState="0.0" style="ExplicitOutputPort;align=right;verticalAlign=middle;spacing=10.0;rotation=0"/>
</root>
</mxGraphModel>
<mxCell as="defaultParent" id="0:2:0" parent="0:1:0"/>
</XcosDiagram>

```



Graphics

Scilab object including graphical information concerning the features of the block. These information are used on the editor to render the block and display values. These values are not propagated to the compiled cpr representation.

Type : scilab tlist of type "graphics" with fields : orig, sz, flip, theta, exprs, pin, pout, pein, peout, gr_i, id, in_implicit, out_implicit, in_style, out_style, in_label, out_label and style.

Name	Description	Size	Type
orig	Vector [xo,yo], where xo is the x coordinate of the block origin and yo is the y coordinate of the block origin. [xo,yo] is the coordinate of down-left point of the block shape.	2	row vector of real.
sz	Vector [w,h], where w is the block width and h the block height.	2	row vector of real.
flip	Set the block orientation. If true the input ports are on the left of the box and output ports are on the right. If false the input ports are on the right of the box and output ports are on the left.	1	boolean
theta	Set the angle of the Scicos object. This value is in degree and is included in [-360,360].	1	boolean
exprs	Strings including formal expressions used in the dialog box of the block.	number of formal expressions	column vector of strings.
pin	Vector. pin(i) is the number of the link connected to the ith regular input port (counting from one), or 0 if this port is not connected	number of regular input ports.	column vector of integers.
pout	Vector. pout(i) is the number of the link connected to the ith regular output port (counting from one), or 0 if this port is not connected.	number of regular output ports.	column vector of integers.
Pein	Vector. pein(i) is the number of the link connected to the ith event input port (counting from one), or 0 if this port is not connected.	number of events input ports.	column vector of integers.

peout	Vector. peout(i) is the number of the link connected to the ith event output port (counting from one), or 0 if this port is not connected.	number of events output ports.	column vector of integers.
gr_i	Not used	--	column vector of strings.
id	A string to ease the identification of the block.	1.	string.
in_implicit	A vector of strings including 'E' or 'T'. 'E' and 'T' stand respectively for explicit and implicit port, and this vector indicates the nature of each input port. For regular blocks (not implicit), this vector is empty or contains only "E".	nul or number of regular input ports.	column vector of strings.
out_implicit	A vector of strings including 'E' or 'T'. 'E' and 'T' stand respectively for explicit and implicit port, and this vector indicates the nature of each output port. For regular blocks (not implicit), this vector is empty or contains only "E".	nul or number of regular output ports.	column vector of strings.
in_style	A vector of strings including JGraphX key values style properties. These style can be used to place text or to change port aspect (eg. round, green port). This is set in semicolon separated key=value set.	nul or number of regular input ports.	column vector of strings.
out_style	A vector of strings including JGraphX key values style properties. These style can be used to place text or to change port aspect (eg. round, green port). This is set in semicolon separated key=value set.	nul or number of regular output ports.	column vector of strings.
in_label	A vector of strings including ports labels. These labels can be used to update text or to trace information.	nul or number of regular input ports.	column vector of strings.
out_label	A vector of strings including ports labels. These labels can be used to update text or to trace information.	nul or number of regular output ports.	column vector of strings.
style	A string. A vector of strings including JGraphX key values style properties.	nul or 1.	a string.

