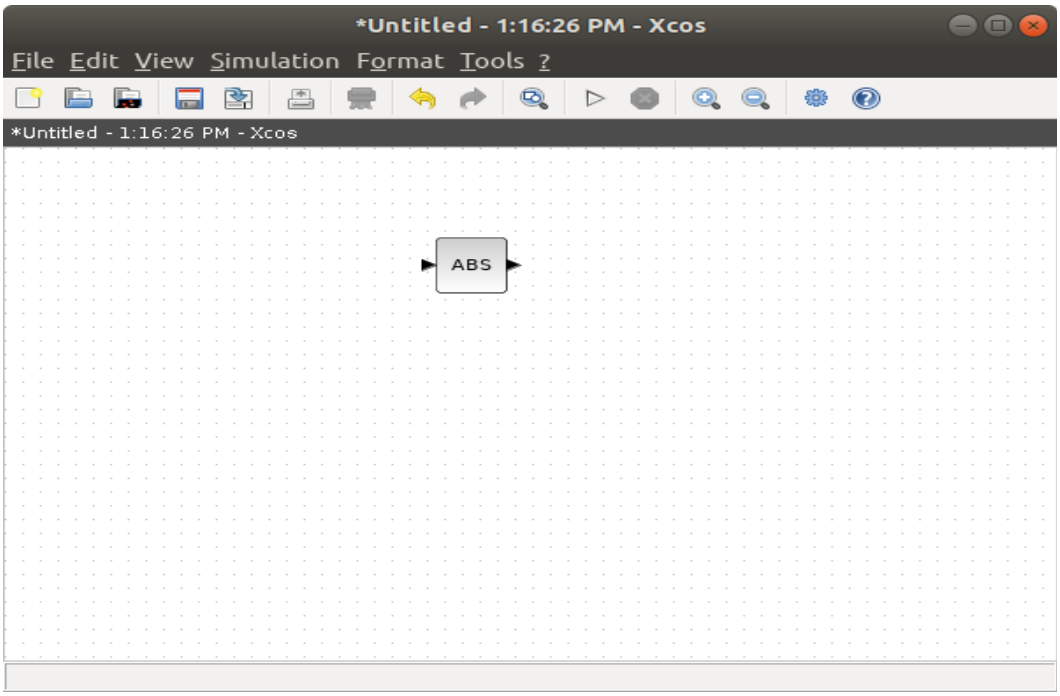
Name:Kanad Gaikwad
Date:31/05/2019



XML file:

Open abs.xcos ~/.Scilab/scilab-6.0.1 Save

```
<?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 Tab Width: 8 Ln 1, Col 1 INS

Python code:

```
import os import xml.etree.ElementTree as ET
from pylatex import Document, Section, Subsection,
Tabular,TikZ,TikZCoordinate,TikZNode,TikZDraw,TikZUserPath,TikZOptions
tree = ET.parse('abs.xml')
root = tree.getroot()
if __name__ == '__main__':
    image_filename = os.path.join(os.path.dirname(__file__))
    geometry_options = {"tmargin": "1cm", "lmargin": "10cm"}
    doc = Document(geometry_options=geometry_options)
    with doc.create(TikZ()) as pic:
        box = TikZNode(text='Abs Val',
                       handle='rectangle',
                       options=TikZOptions('draw'
                                           ,))
        pic.append(box)
listA= []
listB= []
listC=[]
listD=[]
for i in root.iter('XcosDiagram'):
    listB=(list(i.attrib.values()))
    listA=(list(i.attrib.keys()))
for child in root.findall("./mxGraphModel/root/BasicBlock"):
    listC=(list(child.attrib))
    listD=(list(child.attrib.values()))
with doc.create(Section('XcosDiagram')):
    with doc.create(Tabular('|c|c|')) as table:
        table.add_hline()
        table.add_row('Name','Value')
        table.add_hline()
        table.add_row([listA[0],listB[0]])
        table.add_hline()
        table.add_row([listA[1], listB[1]])
        table.add_hline()
        table.add_row([listA[2], listB[2]])
        table.add_hline()
        table.add_row([listA[3], listB[3]])
        table.add_hline()
        table.add_row([listA[4], listB[5]])
        table.add_hline()
        table.add_row([listA[6], listB[6]])
        table.add_hline()
        table.add_row([listA[7], listB[7]])
        table.add_hline()
        table.add_row([listA[8], listB[8]])
        table.add_hline()
        table.add_row([listA[9], listB[9]])
        table.add_hline()
        table.add_row([listA[10], listB[10]])
        table.add_hline()
        table.add_row([listA[11],listB[11]])
        table.add_hline()
with doc.create(Section('Basic info')):
    with doc.create(Tabular('|c|c|')) as table:
        table.add_hline()
        table.add_row('Name','Value')
        table.add_hline()
        table.add_row([listC[0],listD[0]])
        table.add_hline()
        table.add_row([listC[1], listD[1]])
        table.add_hline()
```

```
        table.add_row([listC[2], listD[2]])
        table.add_hline()
        table.add_row([listC[3], listD[3]])
        table.add_hline()
        table.add_row([listC[4], listD[5]])
        table.add_hline()
        table.add_row([listC[6], listD[6]])
        table.add_hline()
        table.add_row([listC[7], listD[7]])
        table.add_hline()
        table.add_row([listC[8], listD[8]])
        table.add_hline()
doc.generate_pdf('example1', clean_tex=False)
```

.tex created file

```
\documentclass{article}%
\usepackage[T1]{fontenc}%
\usepackage[utf8]{inputenc}%
\usepackage{lmodern}%
\usepackage{textcomp}%
\usepackage{lastpage}%
\usepackage[tmargin=1cm,lmargin=10cm]{geometry}%
\usepackage{tikz}%
%
%
%
\begin{document}%
\normalsize%
\begin{tikzpicture}%
\node[draw] (rectangle) {Abs Val};%
\end{tikzpicture}%
\section{XcosDiagram}%
\label{sec:XcosDiagram}%
\begin{tabular}{|c|c|}%
\hline%
Name&Value\\%
\hline%
debugLevel&0\\%
\hline%
finalIntegrationTime&100000.0\\%
\hline%
integratorAbsoluteTolerance&1.0E{-}6\\%
\hline%
integratorRelativeTolerance&1.0E{-}6\\%
\hline%
toleranceOnTime&100001.0\\%
\hline%
maximumStepSize&0.0\\%
\hline%
realTimeScaling&0.0\\%
\hline%
```

```
solver&1.0\\%
\hline%
background&{-}1\\%
\hline%
gridEnabled&1\\%
\hline%
title&Untitled\\%
\hline%
\end{tabular}

%
\section{Basic info}%
\label{sec:Basic info}%
\begin{tabular}{|c|c|}%
\hline%
Name&Value\\%
\hline%
id&377a5292:16b0244b376:{-}7ff9\\%
\hline%
parent&0:2:0\\%
\hline%
interfaceFunctionName&ABS\_VALUE\\%
\hline%
blockType&c\\%
\hline%
dependsOnU&0\\%
\hline%
simulationFunctionName&absolute\_value\\%
\hline%
simulationFunctionType&C\_OR\_FORTRAN\\%
\hline%
style&ABS\_VALUE\\%
\hline%
\end{tabular}

%
\end{document}
```

1 XcosDiagram

Name	Value
debugLevel	0
finalIntegrationTime	100000.0
integratorAbsoluteTolerance	1.0E-6
integratorRelativeTolerance	1.0E-6
toleranceOnTime	100001.0
maximumStepSize	0.0
realTimeScaling	0.0
solver	1.0
background	-1
gridEnabled	1
title	Untitled

2 Basic info

Name	Value
id	377a5292:16b0244b376:-7ff9
parent	0:2:0
interfaceFunctionName	ABS_VALUE
blockType	c
dependsOnU	0
simulationFunctionName	absolute_value
simulationFunctionType	C_OR_FORTRAN
style	ABS_VALUE