2016

User defined function

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SCILAB.

FUNCTIONS

in

SCILAB

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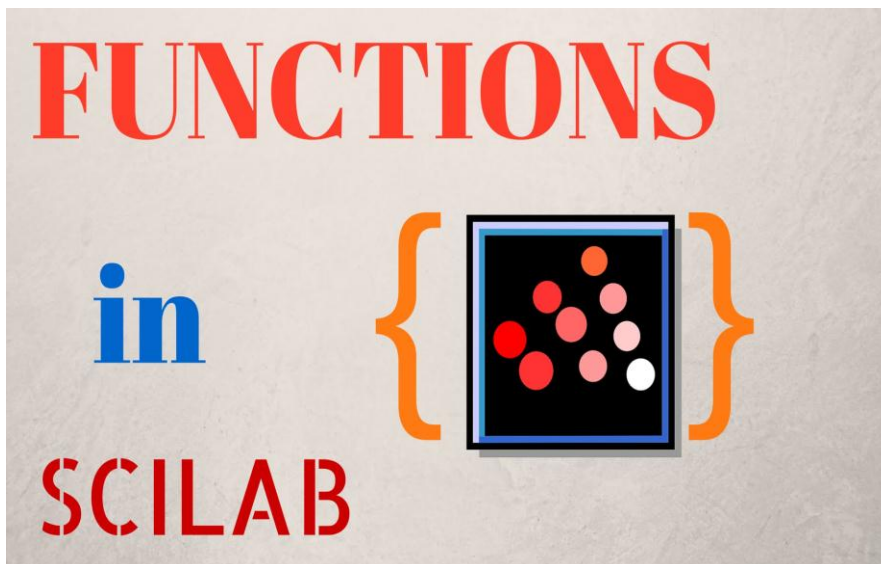
M.Mohamed Ibrahim

Tenet Technetronics

13-NOV-16

Contents

Introduction

A user-defined function (UDF) is a function provided by the user of a program or environment, in a context where the usual assumption is that functions are built into the program or environment.

Step1: To define function a in scilab
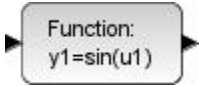
Open Scilab console → Editor window

function y1=cube(u1)

y1=u1^3;

endfunction

Save this file.

**Step2:** Open XCOS Window and then drag & drop the required blocks below.

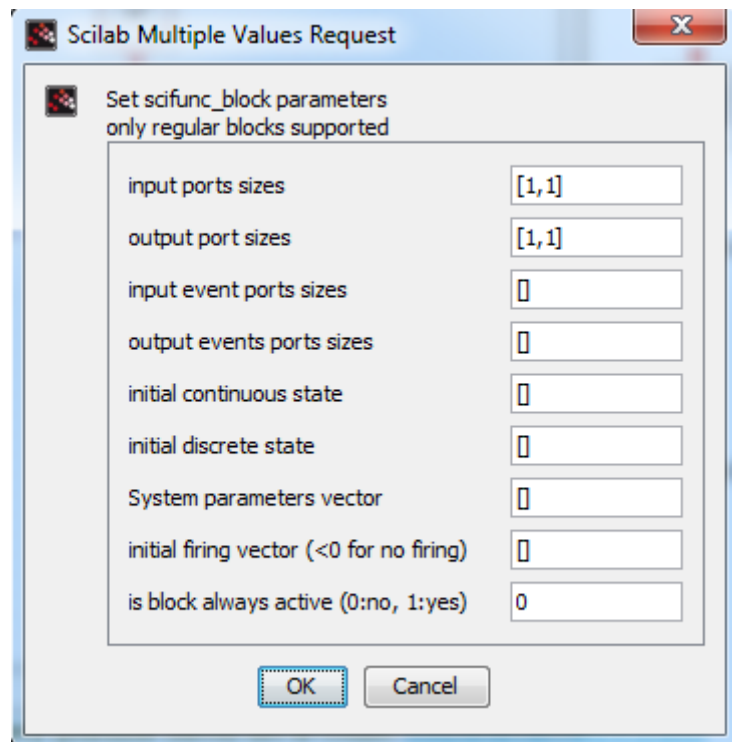| Designation	Representation	Sub- palette
Sine wave generator		Sources/ GENSIN_f
Scilab function block	Function: y1=sin(u1)	User Defined Function/ scifunc_block_m
Multiplexer	MUX	Signal Routing/MUX
Visualization		Sinks/CSCOPE
Clock		Sources/clock_c

Step3: Arrange the blocks in XCOS window and then connected to required ports.
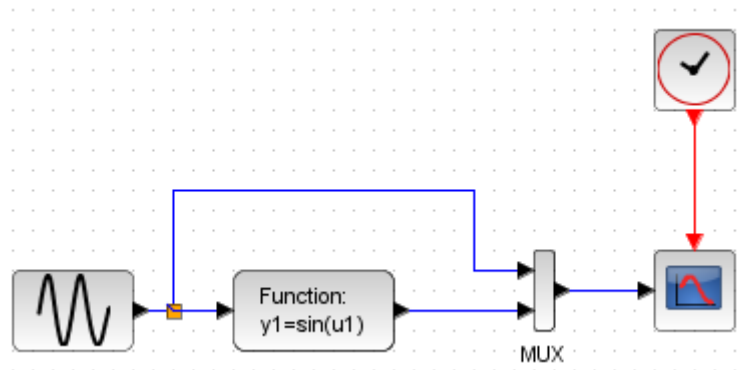
Step4: Configure the Scilab function as a block and then double click on the "scifunc_block_m"
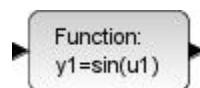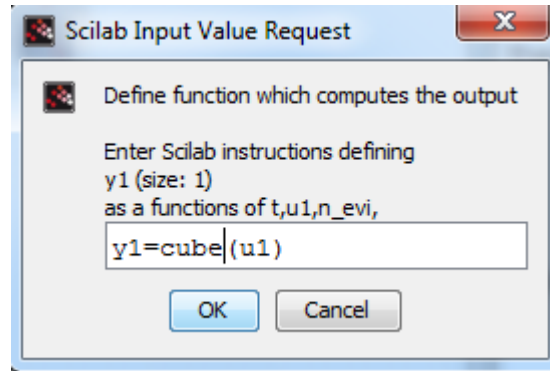

After double click, "Scilab Multiple Values Request" window opened and then set the input/output port sizes of the block.
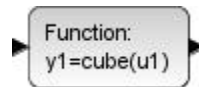
#9/3, Shree Lakshmi Complex, 2nd Floor, Opp. To Vivekananda Park, Girinagar, Bangalore - 560085.
Ph. No: 080-26722726., Website: www.tenettech.com, Email: info@tenettech.com

Click OK,

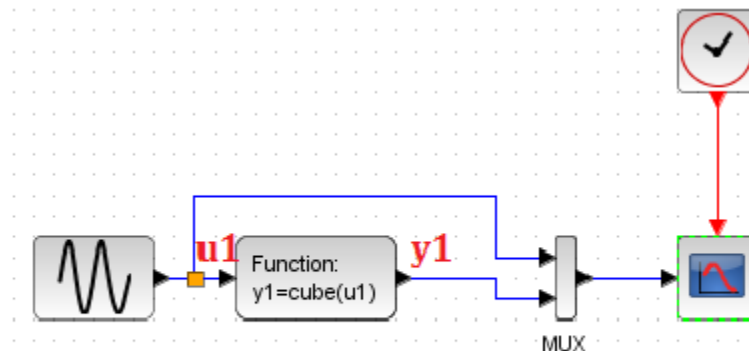Another window is opened and in this window define the function as editor window.

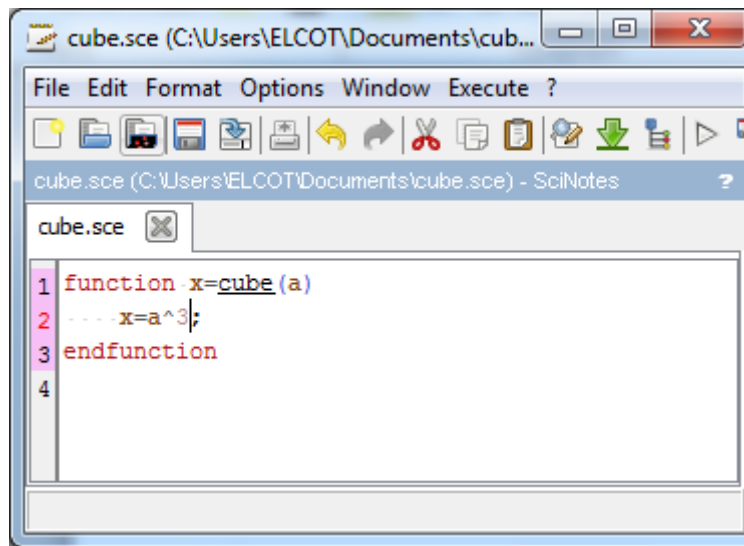

Click OK,

After 3 sebsequent windows be opened, click OK

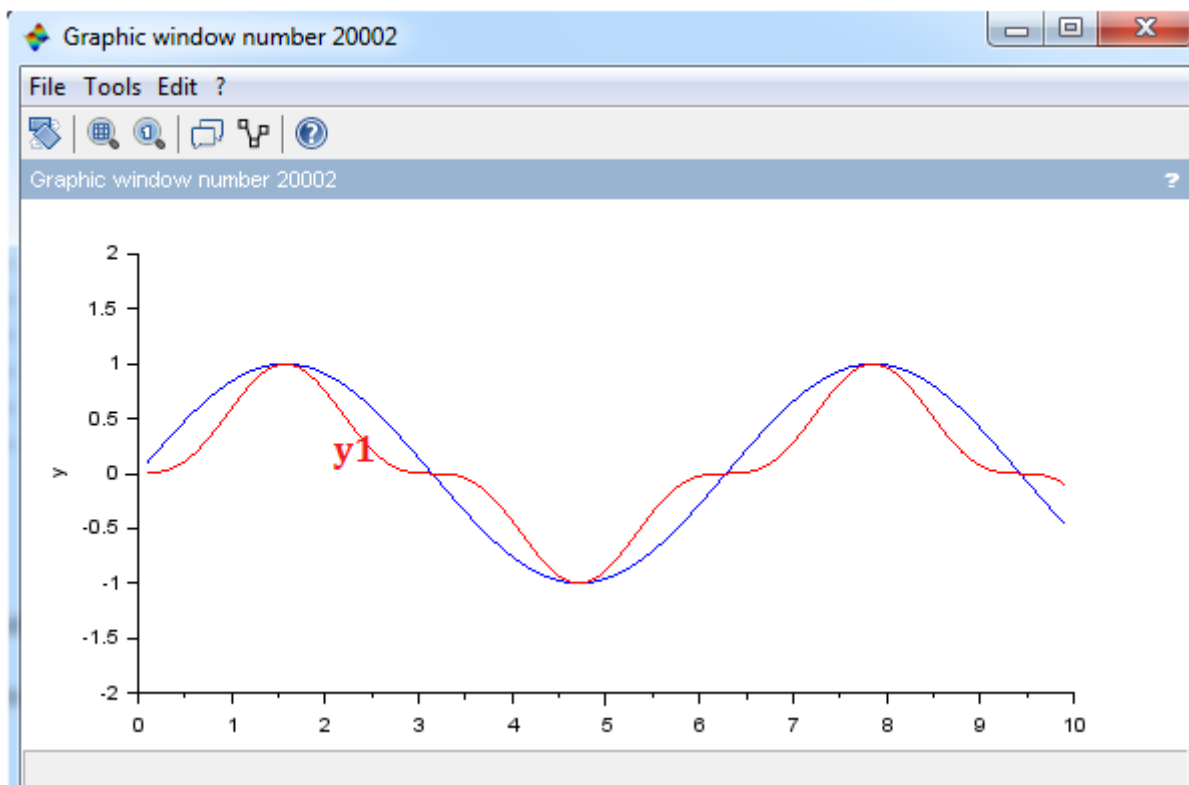Similarly, set the sine & cscope parameter values.

Note:
    y1=u1^3

Step5: Switch to Scilab Editor window, let open the saved file and the execute it

Step6: Simulate the XCOS window and then output of the graphical window is displayed.

Step7: If we want to modify "scifunc" block into two or more input function

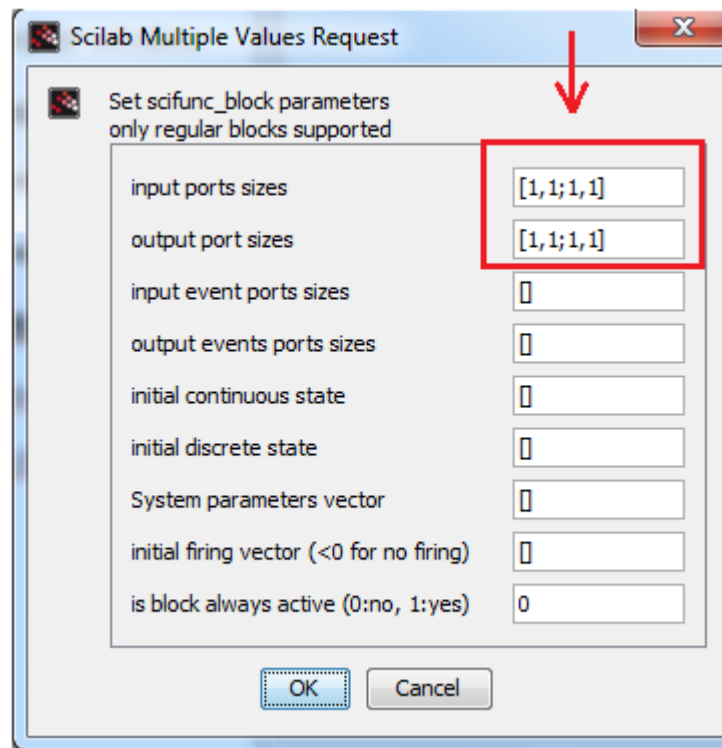Switch to editor window

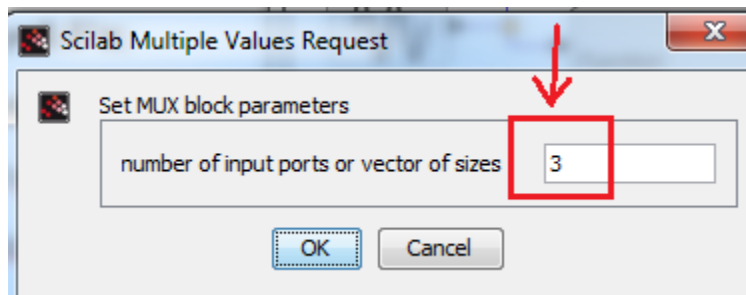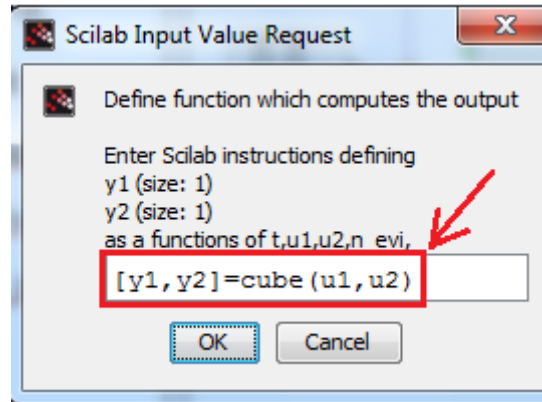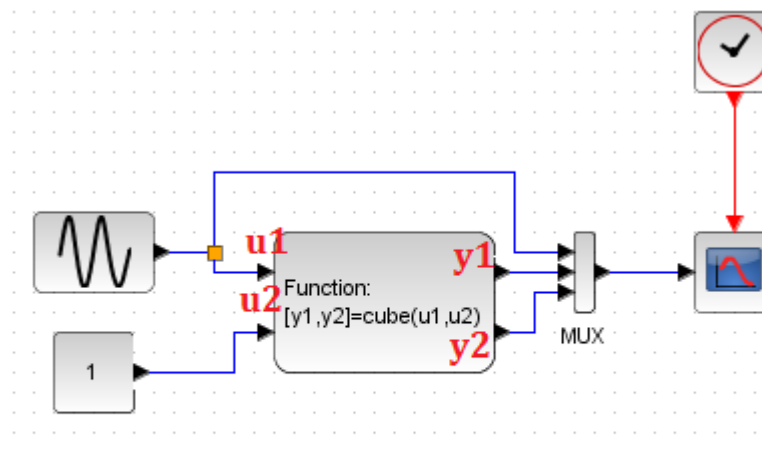**Function [y1,y2] = cube(u1,u2)**

y1=u2+u1^3;

y2=0.5*u1;

endfunction

Save and execute this file.

Step8: Edit the "scifunc_block" and "MUX" block.

Scilab Multiple Values Request	
Set scifunc_block parameters only regular blocks supported	
input ports sizes	[1,1;1,1]
output port sizes	[1,1;1,1]
input event ports sizes	[]
output events ports sizes	[]
initial continuous state	[]
initial discrete state	[]
System parameters vector	[]
initial firing vector (<0 for no firing)	[]
is block always active (0:no, 1:yes)	0

OK   Cancel

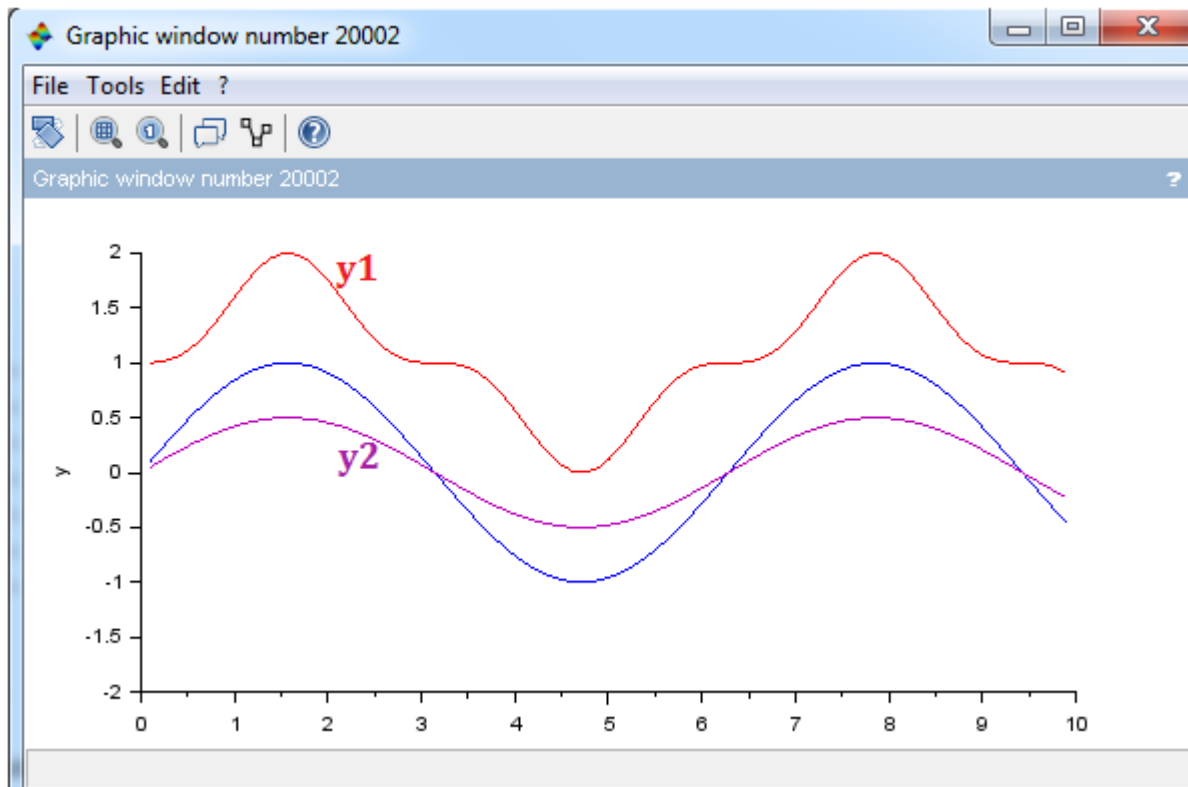**Step9:** simulate the XCOS window,

Note:
    y1=u2+u1^3
    y2=0.5*u1

Step10: Output will be displayed.

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For technical query please send an e-mail: info@tenettech.com