Shri Shankaracharya Institute of Professional Management and Technology, Raipur

Department of Computer Science & Engineering

Lab Manual

Software Laboratory (SciLAB / MATLAB)

3rd Semester



Submitted by:

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Sec: 3rd 'A'

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Session: July-Dec 2021

Faculty Incharge

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Student Name : _____

1	Date
	Experiment 01
_	
	AIM :-
	Implementing Aruthmetic gocations on
	Vectores in scilab.
	Objective:
	I even to handle vectors and perfor-
_	-ning basic aveithmetical operations on it.
	A multiple A Divide Vectors An Exponential Vectors
	$x = \pm \sin t$ $y = (t-1)/(\pm t1)/(z = (\sin(\pm 2)/(t2))$
	Code :-
	14 Greating Vertages + with 10 elements
	1* Greating Vectors + with 10 elements
_	1 70 167 /.
_	11 a militaria vertas
_	+ - 10 - 0000 (1 1010):
	J = singue (1,19,10),
	-10 ("MITTO III Vectors")
	- cosp (macriped
_	2 = + x 4":
	diso(x)
_	oup ();
-	/* Creating Vectors (* with the country) 1 to 10 t /. 11 A multiple vector $t = \text{Linspace}(1, 10.10);$ $clisp("Multiply Vectors")$ $x = t * y";$ $clisp(x);$ $clisp(x);$ $clisp(x)$
	w = (t-1)/(t+1)

Sc)lab 6,0,2 Console

Startup execution: loading initial environment

--> exec('/media/kite/86C65FF6C65FE549/scilab-6.0.2/softComputing/vectors.sci', -1)

Multiply Vectors

4.3677289

A Divide Vectors

0.7425743

A Exponential Vectors

0.0046454

-->

*	**************************************
* -	EXAMPLE PROPERTY.
* -	disp (w);
* -	
******************	b= sin(t* 2);
* -	b= sin(t* 2);
* -	c=b/(+x2); clisp(c);
* -	
* -	
* -	
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****************	A A A A A A A A A A
* - * -	
* - * * **	

Scilab 6.0.2 Console

--> exec('/media/kite/86C65FF6C65FE549/scilab-6.0.2/softComputing/logBaseTen.sci',-1) Enter value of x:500

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_	Experiment: 02
	Aim: Si Lab program to perform Log couth mic
	Operations.
	Objective: Leaven to perform basic Log base
_	10 and power operations in scilab.
	Fincling log bass 10 of any given raw
	number.
	Code;
	Sci Lab Code:
	SC1 200 COCE .
	1# sei Lub program to illustrate use
	of Logwithum operator with base 10.
-	h / +1 / 1
-	x = input ("Enter value of x:")
_	y = log 10 (x),
	print ("value is", x)
	disp(y);
	1 log base 10 with power.
	$z = log 10 (a^6)$.
	x = input ("Enter value of x:") y = log 10 (x)," print ("value is", x) slisp(y), 1 log base 10 with power. z = log 10 (a^6).' clisp (z);
_	

	Date
Exp	eriment: 03
Aim :	Sci Lab perogeram to illustrate exponer
-fiel	Operations.
Osjecti	re:- How to use exponential power of
any	given number and point it on
Osi	lab console.
Cocle	
/* _	sci Lub program to illustrate exponent
powe	
· ¥	e^pi/150 in scillab.
<i>T</i>	
	y = input (" Exter a value you want in
po	wer of e:");
17	$x = \exp(y);$
	$\mathcal{L}(x)$;
	11 Direct Format
	disp (% c^4)
2000	ici Lab program ** illustrate exponentions e^pi/150 in sixlab. y = input (" Enter a value you want in wer of e:"); x = exp(y); clisp(x), 11 Direct Format clisp ("e^y) :***********************************

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Scilab 6.0.2 Console

--> exec('/media/kite/86C65FF6C65FE549/scilab-6.0.2/softComputing/ePowers.sci',-1) Enter a value you want in power of e:12

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162754.791419003828196

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· 2 · · · · · · · ·	1* Sc	i Lab	Program	10	calcul	exte	curea	d
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	Ane	a = pi	x 7 ^ 91	1				
	91							
	oy =	in nut ("Enter	ractiv	3 9 0	ા લોગ	icle (in (m)
	")	7			*			
	A	PFA = 1	D* (MA	2):		-		
		E		- /				
	msq	= 60 AXE	ea of th	e cisu	le is	";		****
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o))	10.				E	Page !						Date_	****
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	in	sci	lab.	1		7) 						
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Scilab 6.0.2 Console

•> exec('/media/kite/86C65FF6C65FE549/scilab.6.0.2/softComputing/LineEquation.sci',.1)

column 1 to 15

0.25 ö .0.25 -0.5 -0.75 ÷ -1.75 -1.5 -1.25 column 16 to 21 Ÿ

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mî	Page No. 07 ***********************************
	Experiment: 06
	Ain: - Woute a program to solve fragonometre
	equation in scilab.
_	Objective: How to use trigonometric function
-	in scilab. And applying them in other
	mathematical operations.
	Code:
-	1* Sci Lab program to solve a simple trigor
•	-metry equation
	y = Sin^2 (1,pi/3) + cos^2(1,pi/3) it
	generates evor
	(Sin (1.0/10)) 12 (COZ (1.0/1/3)) 2,
_	700 CC(CS)
	2 = Input (" Enter value of Theta:")
_	$y = (\frac{1}{sin}(\frac{9}{pi})^{3})^{2} + \cos(\frac{9}{pi})^{3})^{2};$ elisp(4);
-	
	$y = (\sin(x))^2 + (\cos(x))^2$ $(\sin(x))^2 + (\cos(x))^2;$
_	disp (y);
_	

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Scilab 6.0.2 Console

--> exec('/media/kite/86C65FF6C65FE549/scilab-6.0.2/softComputing/TrigonometryOperation.sci',-1) Enter value of Theta : 45

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variable x: Mith 1.

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: M.D

	Date
	Expounent: 07
	Aim: - woute a program to some Complex
	Neumbon problems
	Objective: - How to work with complex
	number and handling real and
	imaginary part of a number.
	Code:
	1* Sci Lab program to some a complex
	number with sugarometry equation.
	= (cos(4.pi/3))^2 + i(sin(4.pi/3))^2;
	No evros correct answer
	y = real + Imaginary , x/
	Theta: 19)
	z = input (Enter value of the state of the
	y = 1. 1 * (sin (1, p:/3)) + (cos % pi /3));
	elsp(y);
	$\frac{1}{(2\pi)^2} + (\cos(x))^2$
_	$y = (\sin(x))^2 + (\cos(x))^2,$
_	elisp (y);
_	
_	

医物质异常 教察中京都本面作即南北下京都村 8 發展發手及奏 古其名 --> exec('/media/kite/86C65FF6C65FE549/scilab-6.0.2/softComputing/ComplexNumberTrig.sci',-1) 10 W 吾具其為 2/4 TKEZ rei 143 문학자 a Nord's 70 0.5000000000000000111022 + 0.86602540378443859659i **铁铁管** 910/m3 1967 aretory. 127 Enter value of Theta : 60 Scilab 6.0.2 Console 7 44 i

oll No.	Date
<u></u>	
Experiment: 08	
11 11 110	compute cooss produc
Ain: " wou'te a program	
of two vectors o-u and	ν,
Of the 11 to the state of	very value of any
	1. 1
vector and using direct	
cross product of given	7000 10002
code :-	
COUP &	
1* Sci Lub Program for	vector cross product
11. Set Zub 1210gram ger	Voci,
2 = input ("Enter vector x	= ") 11 vector x
y = input ("Enter vector y	
J - 11/1/200 1 - 200. Vacque	777 000101
Z (1,1) = x(1,2)* y(1,3)	-x(1,3)** (1,2);
z(1,2) - x(1,1) + (1,3)	
$z(1,3) = \kappa(1,1) \pi y(1,2)$	
2	<u> </u>
disp(z);	

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Scilab 6.0.2 Console

--> exec('/media/kite/86C65FF6C65FE549/scilab-6.0.2/softComputing/9CrossProduct.sci', -1) Enter vector x=[2,3,44]

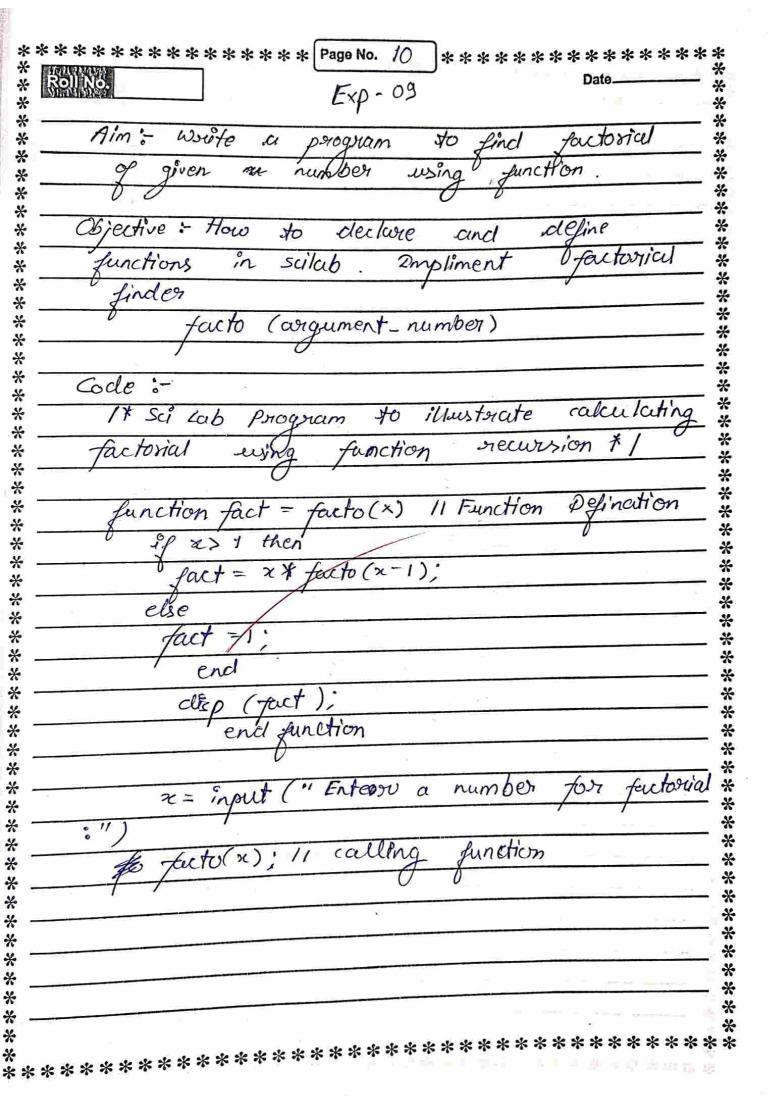
Enter Vector y=[5,6,12]

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水水水水水 Lavie armic -5 4 --> exec('/media/kite/86C65FF6C65FE549/scilab-6.0.2/softComputing/8Recursionfactorial.sci', -1) 7 KNU T A HILL SHE 3 43 Ž. ert. 7 长安等持等 3/500 -**新景等等** VIV. 7 Enter a number for factorial: 6 Scilab 6.0.2 Console 120. 720. 24. H in ó V. 1 1 Y

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YOU NO.					Date_	
Expe	ument: 10					
				<u> </u>		
Asm	:- Write	a pay pa	rogram	1827	plothi	rg
ළ (:- Write and Sin(x)	. / . /	<i>f</i>	-/	/	9
Object	ive: How plot char thematical	to use	scilab	built	in f	unctions
6	plot char	ts on vo	alues	gener	cuted	during
mi	thematical	op eratio	ms.	0		0
					-	
Cod	e P-					
/* 5	sci Lab Pri	ogram for	ploat	ng e	and	Sin X */
	7] 		J		
\sim	= linspact	(0,4,10)) <i>:</i>		4	
·¢	= linspace lisp(x,"	x matrix:	"):			F. 11
		0 (-0.4 * x				
		(20) *w;				
	0			LESVE - BANG- FO		
	disp(y)	•				
	plot (N	<u></u>	- 11 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 			
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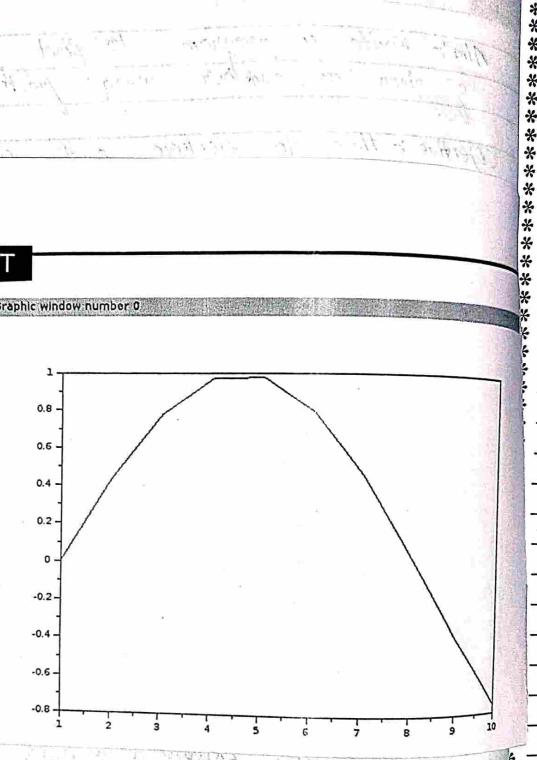
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	Date
-	Experiment 11
	Chroament 11
	Aim : Ecosoto Weste
give	a program to check a
7	en matrix matrix is symmetric or not.
Oric	
,	ctive: How to implement clecision making
- 1	avenents in scilcib, And peribaming transi
7	matrix.
	ode:
	and the state of t
1*	Sci lab program por checking a given
M	atrûx is symmetry or not
	- July of 1003
A	matrix is surmetry il it's transcore
75	1 1 1 1 Starspase
	A = A
	$A = A^{\dagger}$
	*//
	a = insput (" Enter a Matrix:");
	b'= a ;
	if $a = -b$ then
	disp (" given matsin is symmetric:
	else
	clisp (" Given matrix is Not-symmetry
	lend I man
	A = A' A = A'
	A

Scilab 6.0.2 Console

--> exec('/media/kite/86C65FF6C65FE549/scilab-6.0.2/softComputing/11SymmetryMatrix.sci',-1) Enter a Matrix:[1,2,3;3,2,1]

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Given matrix is Not-symmetric.

--> exec('/media/kite/86C65FF6C65FE549/scilab-6.0.2/softComputing/11SymmetryMatrix.sci',-1) Enter a Matrix:[1,0;0,1]

Given matrix is symmetric.

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