SCILAB PRACTICALS

INTRODUCTION

- Scilab → Science Laboratory
- It is open source software system
- It is developed for numerical computations and drawing graphs

USES

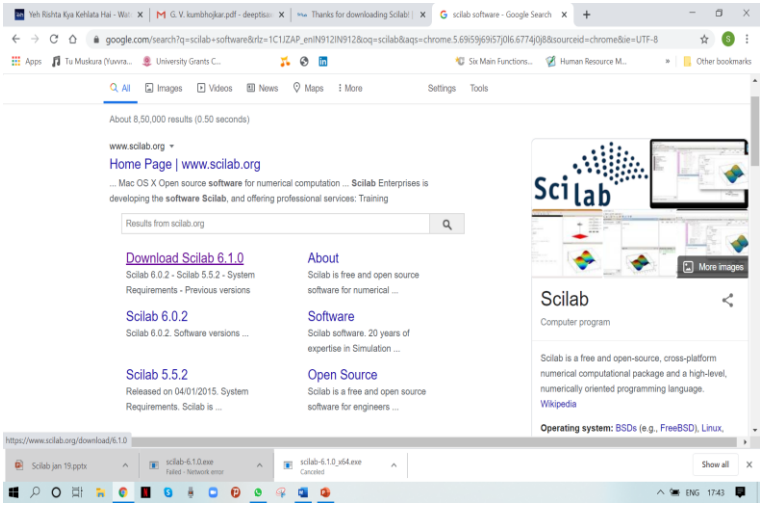
- Tracing of curves
- Matrix manipulations
- Evaluation of single, double , triple integrations
- Solution of first order first degree differential equations
- Solutions of problems related to Fourier Series, Laplace transform, Vector Algebra, Vector Calculus, Complex Variables, Statistics etc.

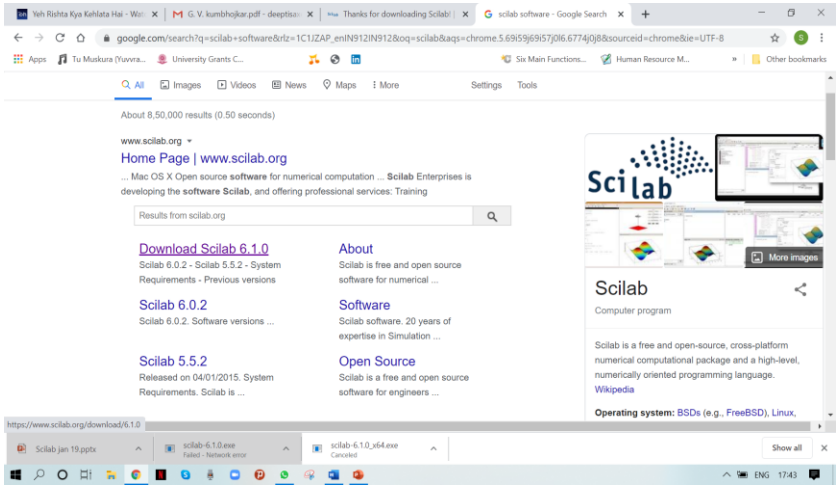
Installation

1. Google Search- scilab software
2. scilab software download free

[Download Scilab 6.1.0

Scilab 6.1.0 - Windows 64 bits (exe)]





Examples

Example on

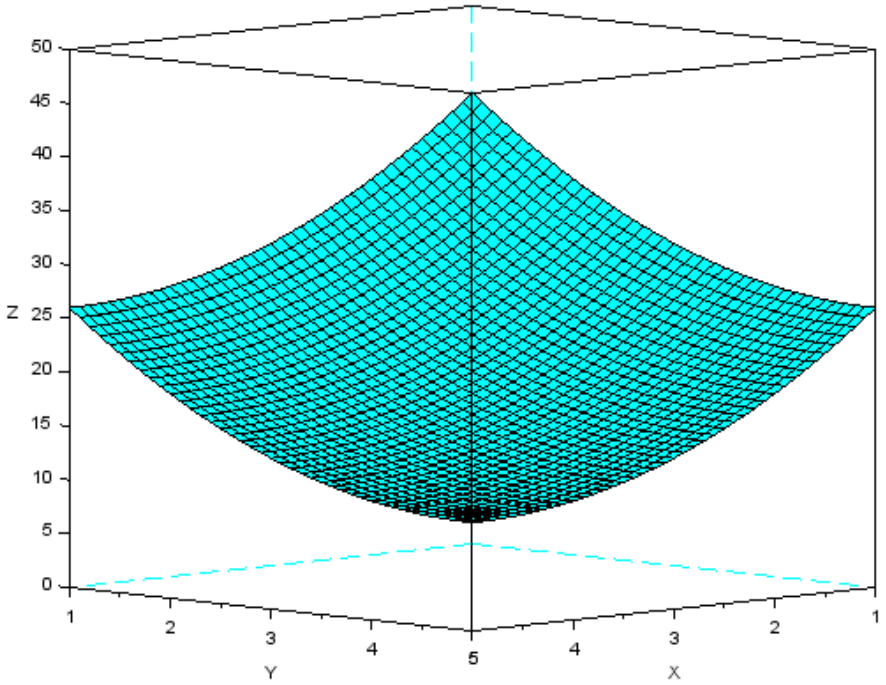
PLOTING OF SURFFACE

PLOT $Z=x^2+y^2$

Code :

```
clc
deff('z=f(x,y)','z=x^2+y^2')
x=1:0.1:5;
 y=1:0.1:5;
 fplot3d(x,y,f)
```

Output:

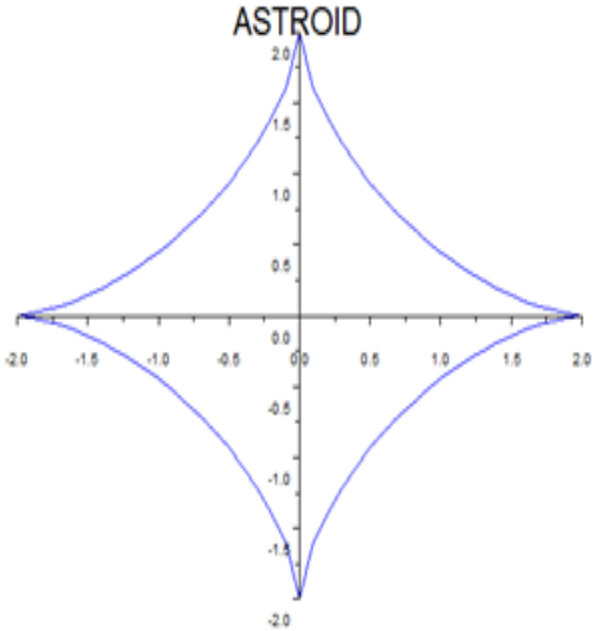


Trace the curve : $x^{2/3}+y^{2/3}=a^{2/3}$

Code

```
a=2;
x=-a:0.1:a;
y=((a^(2/3))-(x^(2/3)))^(3/2);
plot(x,y);
plot(-x,y);
plot(-x,-y);
plot(x,-y);
replot([-2,-2,2,2])
a=gda()
a.x_location='middle'
a.y_location='middle'
title('ASTROID','fontsize',5)
```

- Output



Integration using Trapezoidal Rule

Evaluate $\int_0^5 2x dx$

Code :

```
clc
 x=0:0.1:5;
 y=2*x;
 inttrap(x,y)
```

Output:

```
--> x=0:0.1:5;

--> y=2*x;

--> inttrap(x,y)
 ans  =

   25.000000
```

Thank You