

Installation of FOSSEE Optimization Toolbox in Scilab

Spoken Tutorial Project

<https://spoken-tutorial.org>

National Mission on Education through ICT

<http://sakshat.ac.in>

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Video: Anandajith T S

21 April 2021



Learning Objectives

In this tutorial, we will learn to



Learning Objectives

In this tutorial, we will learn to

- ▶ **Install the FOSSEE Optimization Toolbox.**
- ▶ **Execute a few examples using the toolbox.**



System Requirements

To record this tutorial, I am using



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To record this tutorial, I am using

► **Ubuntu 18.04**



System Requirements

To record this tutorial, I am using

► Ubuntu 18.04

► Scilab 6.1.0



Installation Requirements

For the installation-

- ▶ **We require a working Internet connection.**



Pre-requisites

Before practising this tutorial, a learner should have :



Pre-requisites

Before practising this tutorial, a learner should have :

- ▶ **Basic knowledge of Scilab and Optimization Theory**

For Scilab, please refer to the Scilab tutorials available on

<https://spoken-tutorial.org>



What is FOT?

Scilab Toolbox to solve optimization problems using functions like

- ▶ **linprog, fmincon and many others.**



What can FOT do?

Can solve problems of the type

- ▶ **Linear Programming**
- ▶ **Mixed-Integer Linear Programming**
- ▶ **Quadratic Programming**
- ▶ **Nonlinear Programming**



What can FOT do?

Can solve problems of the type

- ▶ **Minimax**
- ▶ **Goal-attain**
- ▶ **Least Squares**
- ▶ **Minimization/maximization with or without constraints**



Summary

In this tutorial, we have learnt to:

- ▶ **Install FOSSEE Optimization Toolbox.**
- ▶ **Execute examples from the help menu in the toolbox.**



About Spoken Tutorial project

- ▶ Watch the video available at https://spoken-tutorial.org/What_is_a_Spoken_Tutorial
- ▶ It summarises the Spoken Tutorial project
- ▶ If you do not have good bandwidth, you can download and watch it



Spoken Tutorial Workshops

The Spoken Tutorial Project Team

- ▶ Conducts workshops using spoken tutorials
- ▶ Gives certificates to those who pass an online test
- ▶ For more details, please write to contact@spoken-tutorial.org



Answers for THIS Spoken Tutorial

- ▶ Questions in THIS Spoken Tutorial?
- ▶ Visit `https://forums.spoken-tutorial.org/`
- ▶ Choose the minute and second where you have the question
- ▶ Explain your question briefly
- ▶ The Spoken Tutorial project will ensure an answer



You will have to register to ask questions



Forum for specific questions

- ▶ **The Spoken Tutorial forum is for specific questions on this tutorial.**
- ▶ **Please do not post unrelated and general questions on them.**
- ▶ **This will help reduce the clutter.**
- ▶ **With less clutter, we can use these discussions as instructional material.**



FOSSEE Forum

- For any general or technical questions on Scilab, visit the FOSSEE forum and post your question.

<https://forums.fossee.in/>



Textbook Companion project

- ▶ The FOSSEE team coordinates the Textbook Companion project.
- ▶ We give Certificates and Honorarium to the contributors.
- ▶ For more details, please visit:
https://scilab.in/Textbook_Companion_Project



Lab Migration

- ▶ The FOSSEE team coordinates the Lab Migration project.
- ▶ For more details, please visit:
[https://scilab.in/
Lab_Migration_Project](https://scilab.in/Lab_Migration_Project)

Acknowledgements

- ▶ **Spoken Tutorial and FOSSEE projects are funded by MoE, Government of India.**



Thank you

- ▶ The script has been created by **FOSSEE Team, IIT Bombay**
- ▶ The video for this tutorial was created by **Anandajith T S**,
FOSSEE semester-long
intern 2021

