Building a GUI for plotting 2D Parametric Curves

Spoken Tutorial Project
https://spoken-tutorial.org
National Mission on Education through ICT
http://sakshat.ac.in

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Video: Utkarsh Anand

FOSSEE Team

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Learning Objectives

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The process demonstrated in this tutorial is identical in Windows OS also.

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- **The learner must have basic knowledge of Scilab and GUI Builder toolbox.**

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- **For pre-requisite Scilab tutorials please visit https://spoken-tutorial.org**

Code Files

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- Make a copy and then use them while practising.

What is a Parametric Equation of a Circle?

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Where,

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r = radius

What is a Slider?

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- **Slider is an object that allows the user to dynamically change the value of a parameter.**
- **It allows the user to move an indicator horizontally to set new values.**

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- **The user can also alter the values by clicking on any point on the Slider.**

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- **The object's handle whose response is to be deleted, is passed as an argument.**
- **Syntax: delete(<handle of an object>)**

Summary

In this tutorial, we have:

- **Plotted the Parametric equation of a circle using GUI.**
- **Used a Slider to vary the radius of a circle.**
- **Used the delete function.**

Assignment

- **Create a GUI to plot a Parabola using its parametric equations:** $y = at^2$, $x = 2at$.
- **Change 'a' from -1 to 1 using a Slider and display it in a Text box.**

Assignment

- **Consider, 't' varies from -10 to 10.**
- **Add grid lines to the plot and label the axes.**

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.

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**

Acknowledgements

- **The Spoken Tutorial project is funded by the Ministry of Education, Government of India.**

Thank you

- **This is Utkarsh Anand, a FOSSEE intern 2021, IIT Bombay signing off.**
- **Thanks for joining.**