

Schematic Creation and Simulation using Oscad

Talk to a Teacher

<http://spoken-tutorial.org>

National Mission on Education through ICT

<http://www.sakshat.ac.in>

Rakhi R, Rupak Rokade

IIT Bombay

15 Nov 2013



Learning Objectives

- Create circuit schematic



Learning Objectives

- ▶ Create circuit schematic
- ▶ Generate Spice netlist



Talk to a Teacher

Learning Objectives

- ▶ Create circuit schematic
- ▶ Generate Spice netlist
- ▶ Convert Spice netlist to Ngspice format



Learning Objectives

- ▶ Create circuit schematic
- ▶ Generate Spice netlist
- ▶ Convert Spice netlist to Ngspice format
- ▶ Simulate netlist



Talk to a Teacher

System Requirements

- **Ubuntu 12.04 OS**



System Requirements

- ▶ **Ubuntu 12.04 OS**
- ▶ **Oscad version 1.0**



Prerequisites

- ▶ Basic knowledge of analog and digital electronics



Summary

- ▶ Create circuit schematic



Summary

- ▶ Create circuit schematic
- ▶ **Generate Spice netlist**



Summary

- ▶ Create circuit schematic
- ▶ Generate Spice netlist
- ▶ Convert Spice netlist to Ngspice format



Summary

- ▶ Create circuit schematic
- ▶ Generate Spice netlist
- ▶ Convert Spice netlist to Ngspice format
- ▶ Simulate the netlist



Assignment

- ▶ Watch KiCad tutorial on Schematic Creation available at this link <http://spoken-tutorial.org>



Assignment

- ▶ Watch KiCad tutorial on Schematic Creation available at this link <http://spoken-tutorial.org>
- ▶ Reproduce the astable multivibrator circuit schematic using Oscad



Assignment

- **Oscad uses KiCad for schematic creation**



Assignment

- ▶ Oscad uses KiCad for schematic creation
- ▶ Schematic editor in Oscad = EESchema in KiCad



About the Spoken Tutorial Project

- ▶ Watch the video available at http://spoken-tutorial.org/What_is_a_Spoken_Tutorial
- ▶ It summarises the Spoken Tutorial project



About the Spoken Tutorial Project

- ▶ Watch the video available at http://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



Acknowledgements

- ▶ **Spoken Tutorial Project is a part of the Talk to a Teacher project**
- ▶ **It is supported by the National Mission on Education through ICT, MHRD, Government of India**
- ▶ **More information on this Mission is available at**

<http://spoken-tutorial.org/NMEICT-Intro>

