Communicating to ExpEYES using Python

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

Madhuri & Kaushik
IIT Bombay

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Learning Objectives

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- **Introduction to Python**

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- **Measure AC voltage using Plot window & Python**

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- **Generate a Sine wave**

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- **Introduction to Python**
- **Measure AC voltage using Plot window & Python**
- **Generate a Sine wave**
- **Measure external and internal voltages using Python**

- **Measure capacitance and resistance using Plot window & Python**

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- **Measure capacitance and resistance using Plot window & Python**
- **Generate a Square wave**

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- **Measure capacitance and resistance using Plot window & Python**
- **Generate a Square wave**
- **Connections and circuit diagram**

System Requirement

- **ExpEYES v 3.1.0**

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- **Ubuntu Linux OS v 14.10**

- **ExpEYES junior interface**

Pre-requisites

- **ExpEYES junior** interface
- **Basic Python programming**

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- **ExpEYES junior** interface
- **Basic Python programming**
- **For relevant tutorials, visit our website**
  www.spoken-tutorial.org

Introduction to Python

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- **Simple & easy to learn powerful programming language**

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- **Free & open source cross platform high level language**

Introduction to Python

- **Simple & easy to learn powerful programming language**
- **Free & open source cross platform high level language**
- **Effective approach to object oriented program**

Details About Python

- **For more details about Python programming**
  www.spoken-tutorial.org

Voltage and Sine Wave

- **Measure voltage of A2 and show its sine wave**

To avoid errors on Python Interpreter:

Note

To avoid errors on Python Interpreter:

- **Connect the device to the system**

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To avoid errors on Python Interpreter:

- **Connect the device to the system**
- **Close the Plot window**

- **Install python-matplotlib library using Synaptic Package Manager**

To generate plots on Windows OS:

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Install

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- **Copy the installed ExpEYES files & drivers and paste in C drive**

External Voltage

- **Measure voltage of A1 using a battery as an external voltage source**

Internal Voltage

- **Measure voltage of A1 using PVS as internal voltage source**

- **AC & DC components of a voltage using a capacitor & resistor & generate a square wave**

AC and DC

- **Measure Capacitance, Resistance & generate a Square wave using Python interpreter**

Summary

- **Introduction to Python**
- **Measure AC voltage using Plot window & Python**
- **Generate a Sine wave**
- **Measure external and internal voltages using Python**

Summary (cont.)

- **Measure capacitance & resistance using Plot window & Python**
- **Generate a Square wave**
- **Show connections & circuit diagrams**

Assignment

- **Measure the resistance of your finger using Plot window**
- **Using python generate a combination of Sine and Square waves**
- **Show circuit diagrams**

About the Spoken Tutorial Project

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- **It summarises the Spoken Tutorial project**

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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

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- **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**