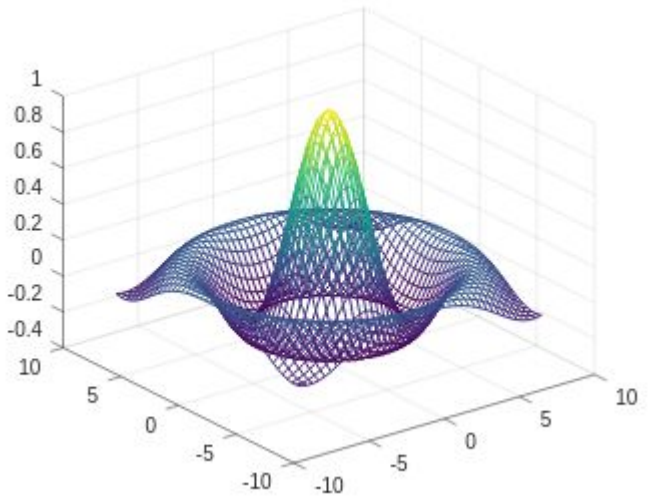
Octave Tutorial

Signal and Image Processing
SoSe 17

Contents

- Overview
- User Interfaces
- Data Types
- Vectors and Matrices
- Plotting
- Loops and Conditions
- Functions and scripts



GNU Octave

Overview

GNU Octave is the “GPL version of Matlab”

Octave and Matlab are both high-level languages intended for numerical computations. It’s often used in:

- Programming and algorithms development
- Numerical Linear Algebra
- Numerical Optimization
- Signal and Image Processing

for more detailed overview + history see: https://www.gnu.org/software/octave/about.html

Overview

This tutorial applies to **Octave only!**

Most of the concepts discussed should also apply for **Matlab** though.

Current version (Spring 2017):
Octave 4.2.1 … you can download it from the Octave Website

If you haven't downloaded Octave yet, please download it **now**!

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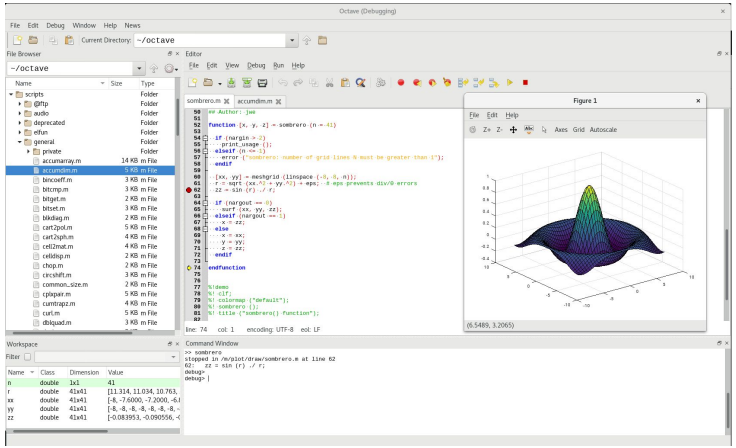
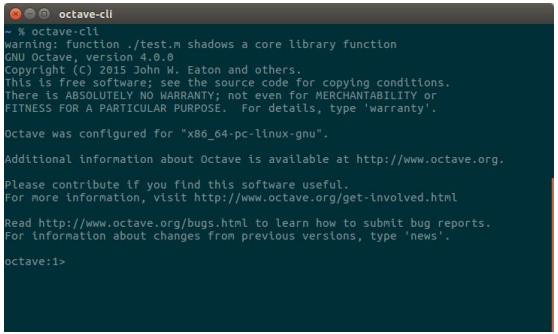
User Interfaces



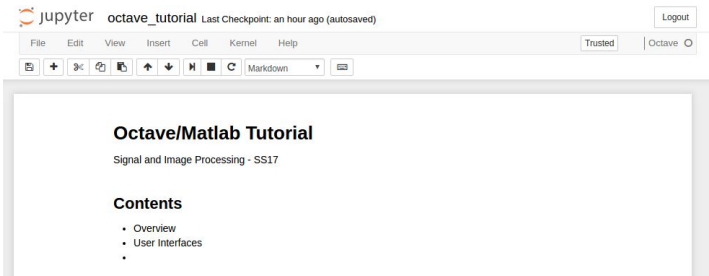
Octave GUI

(included)



Octave CLI

(included)



Octave Kernel for Jupyter Notebook

https://github.com/Calysto/octave_kernel

User Interfaces - Start, Quit, Getting Help

Starting

Octave-GUI
```
$ octave
```

Octave-CLI
```
$ octave-cli
```

Octave-Kernel*
```
$ jupyter notebook
```

*make sure you have Jupyter and the Octave Kernel installed

Quitting*

```
quit or exit
```

*for Jupyter Kernel → just restarts the Kernel

Help

```
help <command>
```

type `q` to exit help page

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