

Advanced Algorithms

Floriano Zini

Free University of Bozen-Bolzano
Faculty of Computer Science

Academic Year 2013-2014

Organization of the lab (from Lab 2)

- Solution (on request) of the assignment given the previous lab (~10 mins)
 - Solution is put online anyway
- Written or programming exercises related to the last lecture (~45 mins)
- Presentation of assignment for next lab (~5 mins)
- Assignments are **optional** and are done at home **individually and without searching the solution on the internet!**
- **Email the assignment to floriano.zini@unibz.it**
 - by **Friday, 1:00pm**
- **Assignments gives maximum 2 points**
 - **G = E + P + A**

Lab 1 – Octave tutorial



What is GNU Octave



- High-level **interpreted** language, primarily intended for **numerical computations**
- Great for **prototyping**
- Normally used through its **interactive command line interface** but also batch programming is possible
- Capabilities for the **solution** of **linear** and **nonlinear problems**, and for performing other numerical experiments
- Extensive **graphics capabilities** for data visualization and manipulation
- Quite similar to **MATLAB®**, most programs are easily **portable**
- Octave documentation is available here
- Website: <http://www.gnu.org/software/octave/>
- Documentation: <http://www.gnu.org/software/octave/doc/interpreter/>

How to install and access Octave

- Instructions for installation on your (Windows/Mac/Linux) computer are here: <http://www.inf.unibz.it/~zini/AA/oct-inst.html>
- In the Lab
 - Boot in Linux
 - Search for "octave"
 - Start Octave

The Octave tutorial videos are courtesy of Andrew Ng - <http://cs.stanford.edu/people/ang/> and are available at <http://class.coursera.org/ml/lecture/preview> on Coursera - <http://www.coursera.org/>

Basic operations

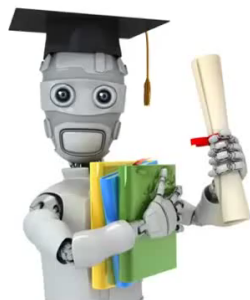


Machine Learning



Octave Tutorial
Basic operations

Moving data around



Machine Learning



Octave Tutorial
Moving data around

Computing on data



Machine Learning

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Computing on data

Plotting data



Machine Learning

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Plotting data

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Control statements and functions



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For, while, if statements,
and functions