LABs Introduction

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LABs Goal

- Provide experience in the implementation of typical algorithms used in distributed systems.

- Gain experience with standard tools and frameworks for
  - ➢ modeling & analysis of distributed systems
  - ➢ distributed programming

- Hands-on daily used, popular, really useful libraries

- Have fun! ...that's why Python as main programming language :)

Schedule

- Reliable Broadcast
  - Simple Simulation of BEB, Discrete Event Simulation of Reliable Broadcast

- Epidemic Protocols
  - Introduction to Agent Based Modeling in python with MESA
  - Implementation of a SIR model with MESA

- …

- Build a blockchain in python

Good to know

- The final grade will be given 50% by the lab projects and 50% by a final (oral) examination.

- Labs website:

    https://lorebz.github.io/labsdistributedsystems2

- Course website:

    http://cricca.disi.unitn.it/montresor/teaching/ds2

- Meeting me... send me an email :)

    I do not live in Trento but can arrange a meeting somehow if necessary :)

My Python setup and tools

- I work on Ubuntu 20.04

- Python 3.7
  - Anaconda + pip

- PyCharm + SublimeText3

- Sometimes Jupyter Notebooks/Lab

You are free to use any other editor and work on other OSs... this sidenote is just to say that provided code has been tested only under this setup

Maybe useful installation notes

- Install Anaconda

  https://docs.anaconda.com/anaconda/install/linux

- Anaconda with Python 3.7

  https://www.anaconda.com/blog/python-3-7-package-build-out-miniconda-release

- `sudo snap install pycharm-community --classic`

Questions?