WIRTSCHAFTS UNIVERSITÄT WIEN VIENNA UNIVERSITY OF ECONOMICS AND BUSINESS

Principles of Software Programming: Course Organisation

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WS 2017

Acknowledgement: slides adopted from Dr. Jürgen Umbrich GZP SS 2014 lecture slides

Me

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My primary research interests are adjacent to the area of **Natural Language Processing (NLP)**:

- Information Extraction
- Machine Learning
- News & Social Media
- Open Data

You

- Programming experience?
- Goals?

Exam

- WS 2017:
  - 28.11.2017
  - 31.01.2018

- Registration!

Goals

- **design** algorithms to solve a problem
- describe and **implement** the solution
- **understand** and analyse programs written by others
- **evaluate** and critically compare different implementations

Content

- Variables
- Data types
- Control flow: branching and iteration
- Recursion
- Basic data structures & algorithms
- Basics of Object Oriented Programming:
  - Classes and Objects
  - Inheritance
- Testing, Debugging, Exceptions, Assertions

Schedule

	Topics	Dates
1	Course Overview, Introduction Python	Monday 10/30/17
2	Structured & Object-oriented paradigms	Friday 11/03/17
3	Data Structures: List, Set, Dictionary	Monday 11/06/17
4	Version Control, Project Structure	Wed 11/08/17
5	Files: Input/Output	Friday 11/10/17
6	Debugging: Exceptions, Assertions	Monday 11/13/17
7	Recursion & Sort*	Wed 11/15/17
8	Trees & Search*	Friday 11/17/17

01:00 PM - 03:45 PM D2.0.031 Workstation-Raum
*01:00 PM - 04:00 PM

External Resources

- https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-0001-introduction-to-computer-science-and-programming-in-python-fall-2016/
- https://www.coursera.org/learn/learn-to-program
- https://imgur.com/gallery/3wSHJ
- http://www.python-course.eu/python3_course.php
- http://docs.python-guide.org/en/latest/
- http://diveintopython.net
- https://pythontips.com/2016/02/27/learning-python-for-data-science/
- https://talkpython.fm
- https://github.com/jupyter/jupyter/wiki/A-gallery-of-interesting-Jupyter-Notebooks
- https://learnpython.wordpress.com
- http://www.pythontutor.com
- https://www.codecademy.com/learn/python
- http://interactivepython.org/courselib/static/thinkcspy/index.html
- https://github.com/gregmalcolm/python_koans

Resources

- learn@WU: 1016 - Principles of Software Programming https://learn.wu.ac.at/dotlrn/classes/pool/1016.17w
  - Slides
  - Diskussion forum

- Jupyter Notebooks https://programming.ai.wu.ac.at/1016/notebooks/$MATRIKELNUMMER
  - Individual IDEs
  - Code samples