AGH

# Anaconda
# platform installation, packages management, creating environments


Wydział: —
Instytut: podaj nazwę instytutu
Autor: Piotr Kramarczyk
Recenzent: Beata Hejmanowska


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## Spis treści

## 1. Preparing the computer for the laboratory

Each student should:

1. Install Anaconda distribution - see section 3.
2. Install textu editor with Python syntax support - for Windows, e.g. *notepad++*.
3. Create a new environment called *lab1* and install the modules in it: *ipython*, *numpy*, *pandas* - see point 5.

A new environment will be created for each exercise in which the required Python modules will be installed. The emph ipython module must be installed in each new environment.

## 2. Sources of information

1. What is *Python*?
   It is interpreted language open source licensed - see here:
   https://wiki.python.org/moin/BeginnersGuide/Overview
2. What is *Anaconda*?
   It is generally speaking platform for scientific calculations - see here:
   https://www.anaconda.com/what-is-anaconda/
3. What is *conda*? It is a system for package and environment management open source licenseded - see here:
   https://conda.io/docs/
4. *Anaconda Didtribution* - see here:
   https://www.anaconda.com/distribution/
5. What is *notepad++*?

   > „Notepad++ is a free (as in “free speech” and also as in “free beer”) source code editor and Notepad replacement that supports several languages.”

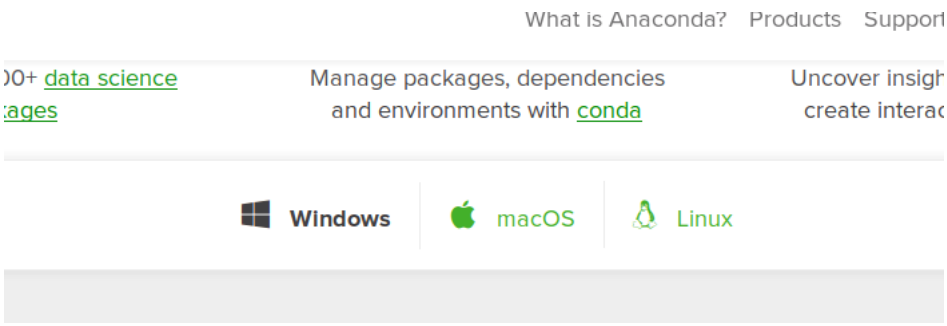
   https://notepad-plus-plus.org/

Python modules:

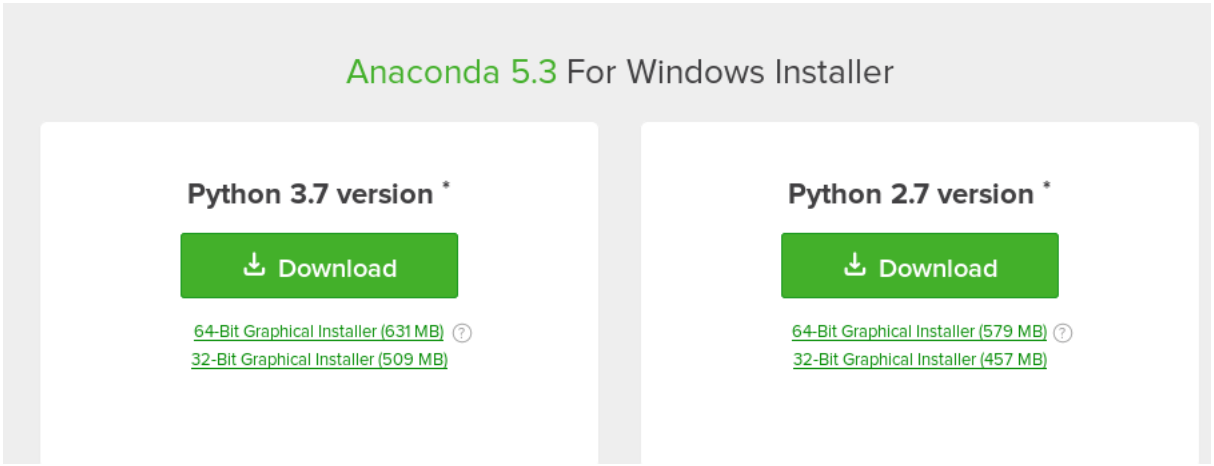
1. What is *ipython*? It is interacitive console of *Python* language - see here:
   https://ipython.readthedocs.io/en/stable/
2. What is *NumPy*? „*NumPy* is the fundamental package for scientific computing with Python” - see here:
   https://numpy.org/
   https://numpy.org/devdocs/user/quickstart.html
3. What is *pandas*? *pandas* is Python Data Analysis Library - see here:
   https://pandas.pydata.org/

## 3. Anaconda distribution installation

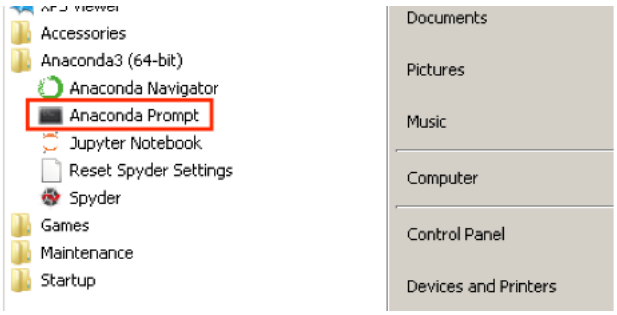
1. Download the chosen installation package https://www.anaconda.com/download/#download:
   - select your operation system ie. Windows:




   - choose the default version of python 3 - Python 3.7 in the case as shown below:




2. Run the installation and follow the appearing tips:
   - for Windows:
     http://docs.anaconda.com/anaconda/install/windows/
   - for Linux:
     https://docs.anaconda.com/anaconda/install/linux/
3. After installing Anaconda:
   - run Anaconda terminal on Windows:




   - run terminal on Linux
   - check conda version: *conda –version*
   - update conda manager: *conda update conda*
   - update of Anaconde: *conda update anaconda*

# 4. Conda environments and packages management

## 4.1. Management of environments

For each project we advice to create separate environment with installed needed packages. Basic commands:

**conda create -n name_of_environment** - create an environment called *name_of_environment*

**conda create -n name_of_environment python=3.6.6** - create an environment called *name_of_environment*, with the indicated Python version

**conda remove -n name_of_environment –all** environment remove

**activate name_of_environment** activating the environment on Windows

**conda activate name_of_environment** activating the environment on Linux

**deactivate** deactivating the environment on Windows

**conda deactivate** deactivating the environment on Linux

**conda info –envs / conda info -e** displaying a list of available environments

Help: https://conda.io/docs/user-guide/tasks/manage-environments.html

## 4.2. Packages management

Help: https://conda.io/docs/user-guide/tasks/manage-pkgs.html

Basic commands:

**conda list** - check the list installed packages in current environment sprawdzenie

**conda list | findstr *package_name*** - search for packages installed in the current environment using the stream | and console command *findstr* - on Windows

**conda list | grep *package_name*** - search for packages installed in the current environment using the stream | and console command *grep* - on Linux

**conda install *package_name*** - installs package in current environment

**conda remove *package_name*** - remove package from current environment

## 5. Creating a new environment for the first laboratory

Create a new environment that:

- the names are lab1
- uses Python in the default version (3.7)
- has the following modules installed: *ipython*, *numpy*, *pandas*

To do this, in the text console (in Windows *Anaconda Prompt*) enter the commands:

1. *conda create -n lab1* - create an environment called *lab1* (with the default Python version)
2. *conda activate lab1* - activation of the *lab1* environment
3. *conda install ipython numpy pandas* - module installation: *ipython*, *numpy*, *pandas*.

## 6. Documentation and help

- https://docs.continuum.io/anaconda/faq#now-that-i-have-installed-anaconda-what-do-i-do - *ANACONDA FAQ*
- https://conda.io/docs/user-guide/getting-started.html# - conda official documentation
- https://wiki.python.org/moin/BeginnersGuide/Programmers - Beginner's Guide to Python, for instance:
  - https://www.programiz.com/python-programming#tutorial
  - http://www.tutorialspoint.com/python/index.htm
  - https://codecondo.com/10-ways-to-learn-python/ (16 Resources to Learn Python Programming Language)