

Information Retrieval in High Dimensional Data
Lab #1, 12.04.2018

NumPy Basics

Task 1. In this task, we will familiarize ourselves with some basic NumPy functionalities. Make sure that it is imported to your IPython shell.

- a) Generate an arbitrary one-dimensional array **n** with **n.shape=(8,)** and display it
- b) Create a new array **n_odd** which consists of the odd entries of **n**. Display it.
- c) Create a new array **n_rev** which contains the entries of **n** in reverse order. Display it.
- d) What would be the output of the following code?

```
import numpy as np
a = np.array([1, 2, 3, 4, 5])
b = a[1:4]
b[0] = 200
print(a[1])
```

- e) Create a two-dimensional array called **m** with **m.shape=(3,4)** and display it
- f) Create another array **m_revrowel** which contains the same elements as **m**, but with reversed rows. Display it.
- g) Create yet another array **m_revall** which contains the same elements as **m**, but with reversed rows and columns. Display it.
- h) Create an array **m_cut** which contains only the elements from the first and last rows and columns of **m**. Display it.

Helpful Numpy functions

Required packages: **numpy (np)**

np.array(x) turn **x** into a numpy array