

Information Retrieval in High Dimensional Data
Lab #1

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