# Homework 1 (part II)

**Due: 06/03/2019**

Please, complete the problems below and submit through: a) Github/NBviewer and link submitted via Slack, b) ipynb/py file submitted to Drive, c) text (e.g. docx) document with the problems and codes submitted to Drive.

*Note: part 1 of the homework is the completion of the Introduction to Python and Intermediate Python for Data Science courses on DataCamp.*

**Problem 1**

Create a function that will take input two lists/numpy array of arbitrary length with numeric values and return a list/numpy array containing all the unique items that are either in the first list or the second but not in both. Randomly create 2 numpy arrays with different length and test your function. Make sure the results are reproducible.

**Example Input and Output:**

Input = [ 1, 2, 3, 4 ], [ 1, 2, 0 ,4 ]

Output = [ 3, 0 ]

**Problem 2**

Given a list of integers, write one line of code that will create a new list containing only the odd numbers from the original list. Randomly generate a list of integers from 10 to 100 included and test your code. Make sure the results are reproducible.

**Example Input and Output:**

Input = [ 1, 2, 3, 4 ]

Output = [ 1, 3 ]

**Problem 3**

Write a function that will take a list of integers and strings and save in a .txt file the number of strings and the number of even and odd integers.

**Example Input and Output:**

Input = [ 1, 2, “hello”, 4 , 6]

Output in a .txt file:

Number of strings: 1

Number of odd integers: 1

Number of even integers: 3

**Problem 4**

Visit https://datavizcatalogue.com/ and choose one of the listed visualization types. Do some independent research and create a detailed tutorial for the chosen visualization type using matplotlib. Problem 4 should be submitted in a separate file.