Homework 1

Fundamentals of Data Science, 2016/2017

In the following, "ID" denotes your student's ID if you have one, else it denotes your last name (please, suppress accents if present).

The goal of this homework is to submit two Python scripts. **The scripts must be named "ID-nile.py" and "ID-prime.py"**. For example, if your student ID is 12345, your scripts will be named `12345-nile.py` and `12345-prime.py`.

Nile

The script "ID-nile.py" will load **from the current directory** the dataset `Nile.csv`, available on the web site of the course. Make sure that the script will load the necessary Python packages, as well as the dataset from exactly the filename specified above, **otherwise it may fail when I test it**. It will then ask the user for a starting year and an ending year, and will print out the average flow between the two years (boundaries included). **Do not print anything else**. For example:

```
$ ipython 12345-nile.py
Give me the starting year: 1923
Give me the ending year: 1967
997.56
```

Prime

The script "ID-prime.py" will ask for a number N in input, and will print in output "prime" if N is prime, or the smallest divisor of N otherwise! For example:

```
$ ipython 12345-prime.py
Tell me the number: 17
prime
$ ipython 12345-prime.py
Tell me the number: 35
5
```

Beware! The program must take less than 1 second for all numbers up to one trillion (10^{12}), so you will need to think of a smarter solution than the one seen in class.

Submitting the homework

The homework (i.e. the two scripts) shall be sent by e-mail, not later than Thursday October 20 at 23:59, to the address `fds2016lab@gmail.com`. **The subject of the e-mail must be "ID hw1".**