How To

Python Slides & Hands-On

Material

Material is available on gitlab, in a terminal type:

```
$ git clone https://gitlab.com/andreadotti/pyalghero2019.git
```

On the school VM to use the material do:

```
$ conda activate course
```

Slides

HTML slides are available at the links shown in the agenda

A PDF hands-out of slides are also available attached to the agenda

Instructions on how to re-generate interactive slides can be found in the README.md file

Slides material is contained into "Slides" sub-directory

Hands On

Hands on exercises are provided into the "Notebooks" directory.

Ex 01 and 02 are general python language course
- 01: Write a function that generates random numbers
- 02: Write a class that numerically integrates simple pendulum equations

Ex 03, 04, 05 are data science exercises
- 03: Analyse advertisement data from a Facebook campaign
- 04: Linear Regression, perform it "from scratch": predict price of house
- 05: Logistic Regression, perform it "from scratch": iris dataset, distinguish flowers

Ex 06 (Optional)
- 06: Neural Networks "from scratch": recognize handwritten digits (only inference, no training)

Hands On

To do exercises, from VM, open a terminal:

```
$ conda activate course
$ cd pyalghero2019
$ jupyter notebook
```

Go into "Notebooks" directory, open exercise notebooks

Solution is provided in a notebook with same name and `-Solution` suffix

Like an italian dinner, exercises are best served in order. You can mix as you want, but I will be offended :-)

Install code outside VM

If you want to use/install the python course material outside of the VM:

Install anaconda3 software

```
$ git clone https://gitlab.com/andreadotti/pyalghero2019.git
$ cd pyalghero2019
$ conda env create -f environment.yml
$ #Get a coffee
$ . post-install.sh
$ conda activate pycourse2019
```

More instructions on README.md (especially to generate slides)