2. Setting up packages

Required python packages

Throughout this course, we will be using Python 3.6 along with the following packages.

- NumPy
- matplotlib
- SciPy
- tqdm
- PyTorch

Installation using pip

If you already have a working installation of Python 3, you should be able to install all of the above packages using pip.

```
pip3 install numpy
pip3 install matplotlib
pip3 install scipy
pip3 install tqdm
```

For PyTorch, follow the instructions on https://pytorch.org/to install from pip repository corresponding to your system. You will not need CUDA for this course.

In the above commands, you can replace `pip3` with `python3 -m pip` to make sure you are installing the packages for the version of python your system is currently using.

Installation using conda

However, the recommended way of configuring your system is by using a conda environment.

We recommend that you install the latest version of Miniconda from https://docs.conda.io/en/latest/miniconda.html.

You can then create a conda environment for this course using

```
conda create -n 6.86x python=3.6
```

To activate this environment, use

```
conda activate 6.86x
```

Finally, install all of the required packages:

```
conda install pytorch -c pytorch
pip install numpy
pip install matplotlib
pip install scipy
pip install tqdm
```

Testing your installation

Download project0.tar.gz and untar it in to a working directory. To deal with tar.gz files on windows, you can use 7-zip.

The `project0` folder contains two pyhon files.

- **main.py** contains the various functions you will to complete in the next sections of the project
- **test.py** is a script which runs tests
- **debug.py** contains the code for the final problem of this project

Tip: Throughout the whole online grading system, you can assume the NumPy python library is already imported as `np`.

This project will unfold both on MITx and on your local machine. You are welcome to implement functions locally and then copy+paste your code into the MITx code boxes to fully check correctness and receive your grade for individual function implementations. Alternatively, you can also implement the functions online first and after finishing, copy+paste the solution to your local **main.py** file. Be wary of the number of attempts you have for each problem, especially if you choose the second development flow.

How to Test Locally: In your terminal, navigate to the directory where your project files reside. Execute the command `python test.py` to run all the available tests.

For this project, the `test.py` file will test that all required packages are correctly installed.

Tip: We recommend using a proper IDE for this course such as Visual Studio Code, Pycharm, etc.

Discussion

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