instructions

Prerequisites for `CLASS` and `PTArcade`
- Working installations of `gcc` and `python3` are needed (recommended python@3.9 or below).
- `Miniconda/Conda` installation required for `PTArcade`, for example from here:
https://docs.conda.io/en/latest/miniconda.html

Virtual environments
It is recommended to define two virtual environments, one for each code, where python packages can be installed independently. Virtual environments can be created as
```
python3 -m venv /your/path/vclass
python3 -m venv /your/path/vpta
```

Installation – `CLASS`
Source the virtual environment with
```
source /your/path/vclass/bin/activate
```

- Check if `cython` is already installed for example by starting a python3 session in the terminal and entering `import cython`. If not, you can install it in the virtual environment as

  ```
  python3 -m pip install cython
  ```

  Same for `numpy, scipy...`

- The `CLASS` source can be downloaded from

  https://github.com/lesgourg/class_public/archive/refs/tags/v3.2.0.tar.gz

  After it has been untarred, it can be compiled.

  Before compiling, the following modifications to the Makefile are needed.

  - In the Makefile, please modifiy line 33 to `PYTHON = python3`
  - and comment the `OMPFLAG = -fopenmp` instruction.

  Now you can compile `CLASS`. Move to the `CLASS` folder (where the Makefile is) and enter

  ```
  make all class
  ```

- To check the installation, especially of the python wrapper, start a python3 session in terminal and enter `import classy`

Other information can be found at https://github.com/lesgourg/class_public

Installation – `PTArcade`
Source the virtual environment with
```
source /your/path/vpta/bin/activate
```

- Install `PTArcade` with `conda` by entering

  ```
  conda install -c conda-forge ptarcade
  ```

- If the installation went through, the code can be run by command line with `ptarcade`

Other information can be found at https://andrea-mitridate.github.io/PTArcade/

Plotting tools
In order to plot the results of the output of `CLASS` feel free to use the python plotting functions or other softwares (personally I will use `Mathematica`). For our purposes the output of `CLASS` will be just a list of arrays.