Install Python (and Numpy) on Windows

1. Downlow and install package on <https://www.python.org/downloads/windows/>
2. Open Command Prompt (already pre-installed on Windows) and install Numpy

Enter **py -m pip install numpy** (user **with admin rights**)

Or

Enter **py -m pip install --user numpy** (user **without admin rights**)

* Collecting numpy and installation all done.

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Open IDLE Python to visualize or edit Python files

File – Open – Go to your folder location (.py files you downloaded from GitHub)

1. Condrea2022\_RaraData.py

This file contains data for RaraGerm+/+ RaraGerm-/- RaraD/L2 and RaraD/Germ- mice from Condrea et al Cells 2022 article

and what the software should display after synchronization factor calculation.

1. VanBeek1990\_test.py

This file contains

* simplified data entry (WT1, WT2, WT3 and mutant) used to test synchronization factor software.
* percentages from Van Beek and Meistrich 1990 using rats post vitamin A (PVA)

and what the software should display after synchronization factor calculation.

You may want to change values in these files and run the synchronisation factor calculation.

You may want to create a file with your one set of data.

*Note: This code uses another file called SynchronisationFactor.py containing the code source.*

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Run synchronization factor calculation using Python

Following files are supposed to be in the same directory.

* Condrea2022\_RaraData.py
* VanBeek1990\_test.py
* SynchronizationFactor.py

1. Open Command Prompt (tested with Python 3.8 and 3.10)
2. Find your directory (cd command)
   * Type cd (space) link to your file folder (e.g. cd C:\Users\Desktop)
   * Enter
3. Run your python file (py command)
   * Type py (space) *file name with .py at the end*  (e.g. py Condrea2022\_RaraData.py)
   * Enter

Here you got the synchronization factor data.

*Note: Double click on the Condrea2022\_RaraData.py file calculates synchronization factor but display briefly the results. Follow above instructions to visualize results.*