

## 1.) Requirements

Python3 (as of latest, python 3.8.10 was used to run experiments)  
PyCln (available on pip)  
Autoflake (available on pip)  
Linux based OS preferably Ubuntu ( to be able to use bash scripts and commands like ls, grep, find)

All python files should be stored in a folder named Input\_Data as the script searches through that folder to get .py files

All outputs are recorded in Outputs folder

RunTool.sh and RunImpCheck.py must be placed along the above folders in the same directory  
No such imposition on Calculate\_Average\_Response\_Time.py

## 2.) Procedure for running this tool

a) Execute RunTool.sh using by running

./RunTool.sh

or

bash RunTool.sh

(Ensure directory structure mentioned in 1) is followed)

Outputs will appear as follows:

PC\_res.txt ----- contains the output of pycln tool

PC\_RT.txt ----- contains response times for each program PyCln runs on

AF\_res.txt ----- contains the output of pycln tool

AF\_RT.txt ----- contains response times for each program PyCln runs on

totalimports.txt ----- consists of all import statements in a .py file

b) To get total number of imports, must manually check through totalimports.txt as there may be multiple imports on a single line.

c) To get average response time, execute Calculate\_Average\_Response\_Time.py by running

python3 Calculate\_Average\_Response\_Time.py

on a terminal and enter the locations of PC\_RT.txt and AF\_RT.txt.

The program will output the number of instances (the .py files processed in a) )  
and the average Response Time.

d) To compute whether the tools have correctly flagged imports or not, one will have to go through each .py file manually to confirm whether imports have been correctly flagged or not.