Problem 1

- Write a command sequence to make a directory called “backup” underneath the current directory, then copy all the files in the current directory to “backup”

  mkdir backup
  cp * backup/
- How could you move all the files that end with an extension *.h in your home directory to the current directory without knowing the full path to the current directory

  mv ~/*.h .
- How could you remove a directory named “temp” (need to delete all the underneath files and sub-directories

  rm -rf temp
- If a program becomes unresponsive, what two linux commands could you use to identify the faulty program number and terminate it?

  ps
  kill
- By using command line, how could you check the version of OS, gcc, g++, and python
  - cat /etc/os-release
  - gcc --version OR g++ --version
  - python3 --version

Problem 2

For code refer to part2_main.c file.
Used the internet to research how covariance and variance is calculated (i.e. x, y = read_csv(file_name))
Input: ./part2_main.out "[1.3, 2.4, 4.2, 5.0]" "[3, 4, 5, 6]"
Output: The Cov of two input arrays is 2.15, and their own Var are 2.83 and 1.67.

Problem 3

Refer to part3_calc_cov_and_var.c file.
Refer to part3_main.py file.
Used the internet to research how to incorporate a CSV file into a python program.
Input: python3 part3_main.py
Output: The Cov of two input arrays is -18.35, and their own Var are 101.30 and 109.88.