Exploration and Presentation - Assignment 3

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Spring 2021

Work either on the following project (`https://github.com/CPHBusinessSoftUFO/letterfrequencies`), or on a an earlier project of yours (something you can optimize).

Task 1

- Find a point in your program that can be optimized (for speed), for example by using a profiler.
- Make a measurement of the point to optimize, for example by running a number of times, and calculating the mean and standard deviation (see the paper from Sestoft).
- If you work on the `letterfrequencies` program, make it at least 50% faster.

Hand-in

Should contain the following:

- Short introduction of the program and the part to be optimized
- Documentation of the current performance
- Explanation of bottleneck(s)
- A hypothesis of what causes the problem
- A changed program with better performance
- Documentation of the new performance
- Written in LaTeX

Notice: There might be more than one optimization needed to achieve optimal performance.

Task 2

As a reviewer, you should focus on the following aspects:

- If you have analyzed the same baseline (original) program, do your own measurements of the baseline match the one you review? The actual times will be different due to different hardware, but do you believe the reviewed measurements to be free from errors?
- On your own machine, can you reproduce the claimed speedup of the reviewed solution? Including the stability of the results.
- If you have a faster solution, tell what you did to improve it. If the reviewed solution is faster than your own, remember to give cudos.