LAB 03: CONCORRÊNCIA E PARALELISMO (11158)

Alex Davidson

21st March, 2023

a.davidson@fct.unl.pt

- We ran a Monte Carlo simulation to estimate the value of π in C
- We experimented with running the monte carlo simulation in parallel using `pthreads`
- Assignment PDF: https://github.com/MEI-CP/lab-assignments/

- We will tackle the same problem but using C/C++, with the OpenMP framework.
- OpenMP is a standardised framework for writing concurrent programs
- Assignment PDF: https://github.com/MEI-CP/lab-assignments/
- Important to Profile your results.

Instructions in the README.md

- Create textual or diagrammatic visualisations

Upload to Piazza

TASK FOR THIS WEEK

```
\$ gcc -O3 -fopenmp approxPi.c -o approxPi \
    -lprofiler -L/usr/local/opt/gperftools/lib

\$ env LD_PRELOAD=/usr/local/lib/libprofiler.so \
    CPUPROFILE=main.prof \
    CPUPROFILE_FREQUENCY=100000 \
    ./approxPi 100000 1

\$ pprof -pdf ./approxPi main.prof > callgraph.pdf
```

DEMO FOR OPENMP AND PROFILING...

https://aulas.alxdavids.xyz/pergunta/q4f31d6

PROGRESS CHECK

https://aulas.alxdavids.xyz/pergunta/q1897c0

FEEDBACK

Try to upload a solution to Piazza before next week's lab assignment

Next week we will be moving to a **¡different problem!**

Remember: My office hours are `14:00-16:30` on Tuesdays (P2:17)

See you next week!