

# LAB 01: CONCORRÊNCIA E PARALELISMO (11158)

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I'm Alex, a Professor Auxiliar in the department since February 2023

I'm from the United Kingdom originally

Previously, I worked as a cryptography researcher in the technology industry

I do research in the area of developing practical Internet protocols with privacy-preserving properties

### Aims:

To learn the fundamentals of writing and developing algorithms/programs that make use of **parallel** programming techniques

### Labs:

Experiment with **technologies** and **frameworks** that allow us to build parallel programs.

### Intended outcomes:

1. To be able to **analyse** and **identify** situations in which programs could benefit from parallelism and concurrency.
2. To be able to **scientifically reason** about how parallelism has impacted performance.

- ◇ For  $\sim$ eight<sup>1</sup> weeks, you will be given an assignment on a new theme to complete.
  - ▷ The assignments are not graded, and are intended only to develop your understanding.
- ◇ In the remaining weeks, you will working on a graded project to complete.
  - ▷ The project task will use the same principles and methods that will be used in completing each of the assignments.
- ◇ Every week, I will be here to help with questions, problems, and anything else.

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<sup>1</sup>Exact number may change.

<https://aulas.alxdavids.xyz/pergunta/q0990a5>

To run a **Monte Carlo** simulation to estimate the value of  $\pi$ .

◇ Assignment PDF:

<https://github.com/MEI-CP/lab-assignments/>

◇ The assignment will first introduce you to using **git** and **GitHub**

◇ After that, you will proceed with the main task

Remember: **git** and **GitHub** are your friends.

<https://aulas.alxdavids.xyz/pergunta/q440e4e>

<https://aulas.alxdavids.xyz/pergunta/qbc4850>



<https://aulas.alxdavids.xyz/pergunta/q6d83d2>

Don't worry if you didn't reach a complete solution

Next week we will be working on the same problem but using C

The principles you applied here  
will still be valid

My office hours are 14:00-16:30 on Tuesdays

See you next week!