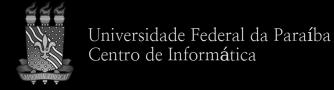
# Assignment 1: C

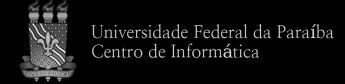
Christian A. Pagot



- How a struct is passed as a parameter to a function and how it is returned?
- · How is this implemented at the assembly-level?
- · Give examples.

- How to create libraries (static and dynamic) in C and how do we link our code to them?
- · Give examples.

- What is, and how does variadic functions work in C?
- How is this implemented in the low-level?
- · Give examples.



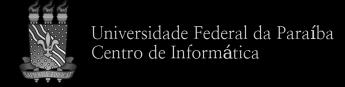
Explain the differences among:

```
static const int a = 10;
#define a 10
enum { a = 10 };
```

 How are the instructions above implemented in the low-level?

- What is #pragma pack and how structure padding and packing works?
- How can we use them?
- · Give examples.

- How to call C functions from C++ code?
- Show how it works at the assembly level.
- · Give examples.



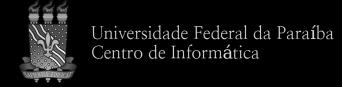
- · What is Valgrind?
- How it can be used to check memory leaks?
- · Give examples.

- What is Valgrind?
- How it can be used to profile code?
- · Give examples.

- What is a Lint?
- How it can be used to check code?
- · Give examples: clang scan-build

- What is type promotion and how it can become a nightmare?
- · Give examples.

- What is OpenMP and how it works?
- · Give some examples.



- · What is fork and how it works?
- · Give some examples.

- · What is **cmake** and how it works?
- · Give some examples.

