A00 - Assignment 0

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Answers to the theory questions

1. The purpose of a *Makefile* is to handle (*in a single file*) all the commands to build all the intermediate deliverables (*called objects, extension* `.o`) and the final deliverable. It can also handle other commands that ca be helpful during the compilation and/or after, like cleaning and deleting all the intermediate objects or setting some paremeters for the compiler.
2. A pointer in C is a variable that contains the address of a location in the main memory (*heap part of the memory*), that location can be another variable or a structure.
3. The `-o3` flag for the *gcc* compiler sets the maximul level of optimization during the compile time. It means that when the compiler is translating che *.c* file into assembly it will also use some of the various techinques to optimize the assembly code like register renaming, dynamic scheduling etc.
4. To pass a value (*variable or struct*) with reference in a function in C you have to pass the address of that value (*address of the variable or struct*). In this way the in the function you will have the access to the original value and it can be modified, meanwhile with copy the value is copied so all the modifications done during the function will not affect the original variable in the memory.