# Assembly Lesson 1

## Recap – C Course

To dust off a bit make sure you know how to explain the following, if you think you don’t know something (even if it wasn’t taught) search online and ask people for help.

1. Explain the following terms:
   1. #include
   2. Macro
   3. Shared object
   4. stdio.h
   5. Syscall (as much as possible)
   6. fd
   7. gcc
   8. ELF file
   9. /proc
   10. Object file
   11. Struct, union – include differences in syntax and in memory
   12. Pointer
   13. Heap – malloc vs calloc
       1. Read a bit about ptmalloc
   14. String (what is a string in C?)
   15. char[] vs char\*
   16. string literal
2. Explain the full compilation process – use as much detail as possible, try using a drawing.
   1. Pre-processor
   2. Compiler
   3. Linker
      1. Dynamic
      2. Static
   4. Loader
3. What is the difference between a process and a program? (use internet if needed)
4. How do we read input from a user?

## Assembly Introduction

1. What are the core components of a computer and what do they do?
2. What is an architecture? What kind of architectures do you know?
3. How many CPUs are in a laptop? (Use the internet)
4. Why do we need assembly?
5. Read online, what is the difference between masn, nasm and tasm
6. What will be the difference between assembling assembly on Linux or on Windows – trick question we will answer later – think about it