

# 01-Pointer

## Introduction

Pointers are used a lot in C programs. There are need to use dynamic memory. Without knowing how to work with pointers a programmer will be left without a very useful and important tool.

## Purpose

With pointers we open up great possibilities as well as mistakes. Pointers are a building block for the coming lecture on dynamic memory.

## Requirements

Memory Variables Types OS

## Videos

Watch the videos in the following order:

- c-pointers-I-small.webm - general intro, \*, &
- c-pointers-II-small.webm - pointers and functions
- c-pointers-III-small.webm - pointer sizes
- c-pointers-IV-small.webm - pointers and arrays
- c-pointers-V-small.webm - user arguments
- c-pointers-VI-small.webm - pointers and structs

## Reading instructions

C Programming language

- Pointers and Addresses
- Pointers and Function Arguments
- Pointers and Arrays
- Address Arithmetic
- Character Pointers and Functions
- Command-line Arguments

- Pointers to Functions (optional, not obligatory)

Wikipedia:

- [https://en.wikipedia.org/wiki/Pointer\\_\(computer\\_programming\)#C\\_pointers](https://en.wikipedia.org/wiki/Pointer_(computer_programming)#C_pointers)
- [https://en.wikipedia.org/wiki/Null\\_pointer](https://en.wikipedia.org/wiki/Null_pointer) (chapters: Introduction, C)

## Goal

The student shall:

- be able to alter values of variables using pointers
- get the address of a variable
- dereference an address
- use structs and points
- write and understand functions where pointers to variables are passed
- ...

## Exam instructions

All questions are examples of questions that may end up on an exam.