

TDT4258 Assignment 2 Group 1

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1 Abstract

For this assignment we wrote a program producing distinct sounds when buttons on the microcontroller were pressed. The program was written in C without an Operation System. We used the internal DAC to make audible audio waves.

A high-level programming language like C gives you a nice abstraction from the hardware while still maintaining direct control. Compared to assembly it is much simpler to create abstract datatype and dealing with variables instead of registers.

Programming without an Operation System gives us full control over the hardware, but it does not provide any abstractions, like device drivers. This requires us to implement a partial driver for all the devices we want to use. In this assignment we use LEDs, buttons and DAC.

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2 Introduction

The second assignment introduces us to a new hardware device, the ABDAC. We also utilize the the buttons and LEDs used in assignment one. This gives an introduction to programming with audio devices and how to produce audio digitally.

The gist of this assignment is to produce different sounds the different buttons are pressed.