How much memory and FLASH storage does the STM32F072R8 have? (section 1.2)
16 Kbytes of static RAM and 128 Kbytes of Flash Memory
What does the acronym "HAL" stand for? (section 1.3)
Hardware Abstraction Library
What is the STM32CubeMX program used for? (section 1.4)
Manually making a project for an STM32F0 processor requires significant configuration. To bypass this we use the STM32CubeMX utility to give us a GUI to configure project parameters so we can make a ready to use uVision project.
Why can't a "bare-metal" embedded application return from the main function? (section 2.2)
There is no OS to go back to so it just keeps running. What it runs is undefined so it can reset itself or start executing random instructions.
In the system's memory table, are the peripheral registers higher or lower in address than the SRAM? (section 2.3)
Higher in address.
What information does each of the four main datasheets/manuals used in the labs provide? (section 2.4)
Board User Manual: Board specific and contains info on board layout and which connections go where.
Chip Datasheet: Pinout info, package info, protocols, and pin definitions.
Programming and Core Manual: Instruction set, core peripherals, and all around general info about the family of processors the manual is about.
Peripheral Reference Manual: Contains ALL of the info about peripherals that might be available with the processor. This can be clocks, memory, GPIO, etc.
Why do STM32F0 devices not recognize inputs/outputs on a chip by physical pin numbering? (section 2.4.1)
As the processors can be put into different chip packages with different numbers of pins. They are instead labeled with the port name so that you can look up the port physical pin in the chip datasheet.
What is the name of ST's header file that defines names for the peripheral registers? (section 2.4.3)
stm32f0xx.h
What bitwise operator would you use to set a bit in a register? (section 2.5.1)
OR
What peripheral enables the system clock to other peripherals? (section 2.5.2)
Reset and Clock Control (RCC)
What peripheral do the HAL library delay functions use? (section 2.5.3)
The SysTick timer peripheral.
Why should you avoid floating-point values on an STM32F0? (section 2.5.4)
The STM32F0 doesn’t have hardware support for floating point which means it has to be emulated. Emulation of floating point can only be done with large and slow code libraries so we don't want to use it.