Lab 01
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Prelab Questions

1. How much memory and FLASH storage does the STM32F072R8 have? (0.4)
   16 kilobytes of RAM; 128 kilobytes of FLASH

2. What does the acronym "HAL" stand for? (0.5)
   Hardware abstraction library

3. What is the STM32CubeMX program used for? (0.6.1)
   It allows us to create a project without having to go through the painstaking process of configuring everything ourselves. It also has a graphical representation, which is easier to look at.

4. Why can't a "bare-metal" embedded application return from the main function?
   Bare-metal programming is where embedded apps execute directly on the processor with no reliance to an operating system as it doesn't exist. The main function, in that case, is supposed to enter an infinite loop to execute the instructions.

5. In the system's memory table, are the peripheral registers higher or lower in address than the SRAM?
   Higher

6. What information does each of the four main datasheets/manuals used in the labs provide?
   Valuable insights and information about the board used in the labs. They also provide information on specific parts and their functions.

7. Why do STM32F0 devices not recognize inputs/outputs on a chip by physical pin numbering?
   The pin ordering and number differ depending on the kind of chip.

8. What is the name of ST's header file that defines names for the peripheral registers?
   stm32f0xx.h, stm32f072xb.h

9. What bitwise operator would you use to set a bit in a register?
   Bitwise OR

10. What peripheral enables the system clock to other peripherals?
    Reset and Clock Control (RCC) – in the stm32f072xb.h file, there are 3 registers under the RCC struct that do control the clock for all peripherals.

11. What peripheral do the HAL library delay functions use?
    SysTick timer delay

12. Why should you avoid floating-point values on an STM32F0?
    It doesn't support the hardware for floating-point values and will need to emulate that hardware with large and slow code libraries