Homework 3

1. Define the concept of memory address
   * Memory address is used for data tracking in devices or CPUs. An address signifies a specific memory location that typically holds one byte of data or instruction.
2. How many registers do an AVR CPU have? What are their names?
   * The AVR CPU has 32 registers and their names are from r0 to r31
3. What is the function of a program counter in a CPU?
   * The program counter’s function in a CPU is containing the address of the next instruction so once the CPU executes an instruction, it knows what instruction to execute next. This is useful because it saves time from the CPU not having to look for the address of the next instruction, thus making the CPU run faster.
4. How many binary bits are used to code the “add” instruction in AVR?
   * There are 16 binary bits that are used to code the “add” instruction.
5. How many bytes will the binary code of the compute.s program on page 12 have? Each byte is 8 bits.
   * The binary code for the compute.s program has 12 bytes.