

Notes on labels

- Labels are case sensitive, opcodes, directives, and register names are not
- In higher-level languages, we put our variable declarations at the top. In LC-3 assembly, we must put them at the bottom of the file.
- Otherwise they'd be executed as instructions!
- If we had `.STRINGZ` at the beginning, we'd have 14 words of ASCII data treated as instructions

Assembler Directives (also pseudo ops)

- .FILL = initialize the (one word) memory location to a specified value (decimal or hex)
 - e.g. .FILL x10
 - .FILL 1024
 - (How do we *reference* this memory though?)
- .STRINGZ fills memory locations with individual characters (they're ZEXTed to word size (2 bytes))
- The "Z" stands for zero, meaning the assembler will put the null terminator at the end for us

Directives (contd.)

- `.BLKW` = set aside some number of sequential memory locations (a block of words).
 - `.BLKW 16` means make space for 16 words (32 bytes)
- `.END` tells the assembler where the program ends
 - The assembler will stop reading the file at this point, discarding everything else
 - This has nothing to do with what happens at execution time (e.g. like `HALT` does)