# Day 6 (Fri 02/04)

- Exercise 5 review
- Day 6 recap Qs
- Day 6 topics
  - file I/O
  - assert
  - math functions
- Exercise 6

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jhuintprog01
↑
zero

# Execise 5 review

## count1.c

iterate backward through original string

in loop body

- translate base
- store translated base in destination string

NUL-terminate destination string

Themes:

- strings must be NUL ('\0') terminated
- a char array must have room to store all of the characters in the string PLUS the NUL terminator
- using a char array that is larger than necessary is fine
- as array element access using an integer index to access individual characters (e.g. s[i] where s is the char array & i is the index of a character)

# Exercise 5 review (continued)

## count2.c

- iterate through characters in string
- use int variables as counters
- for each character, classify using isalpha, isdigit, isspace functions

```
if( isalpha(c)) {
        num_alpha ++;
} else if ( isdigit(c)) {
        num_digit ++;
} else if ( isspace(c)) {
        num_space ++;
}
```

if/else if blocks are useful for making decisions about mutually-exclusive possibilities

# Exercise 5 review (continued)

## count3.c

char values are just integers! (In range 0-127 for ASCII characters.)

So:

```
int ascii_count[256] = {0};  // initializes every count to 0
:
:
char c = [ a character from the string being analyzed ]

ascii_count[c]++;
```

# Day 6 recap questions

1. Is fprintf(stdout, "xxx") the same as printf("xxx")?
2. When should we use assertions instead of an if statement?
3. What will happen if you pass an int variable to a function that takes a double as its parameter? What will happen if a double is passed to an int parameter?
4. What is “pass by value”?
5. How do you change the main function so that it can accept command-line arguments?