REVIEW

Today

- Review
- Preparing for the midterm
- What you need to know for the midterm

Midterm review: chapter 1

- algorithm
- assignment statements
- arithmetic operations (`+, -, *, /, %`)
- output to the screen (`cout`)
- variables
- identifiers and keywords
- `for` loops
- increment and decrement shorthand (++ and `--`)
- comments

- *tracing* program behavior
- software development cycle:
  1. design,
  2. write pseudocode,
  3. write/save,
  4. compile,
  5. run,
  6. test,
  7. debug,
  8. re-write/save,
  9. . . .

Midterm review: chapter 2

- `if` statements
- real number data types: `double, float`
- character data type: `char` and ASCII
- arithmetic precedence ("my dear modern aunt sally") and "associativity" (left to right: `* / % + -`, right to left: $+x$, $-x$, `++, --`)
- formatting output, `endl`
- "escape sequences" (`\n, \t`)
- relational operators ($<, >, <=, >=, ==, !=$)
- increment and decrement operators ($++, --$)
- compound assignment operators ($+=, -=, *=, /=, \%=$)
- math library (`math.h` or `cmath.h`)

Midterm review: chapter 3

- interactive data entry, keyboard input (`cin`)
- “prompting” the user
- `while` loops
- formatted output: `cout.setf()` and `cout.precision()` and `cout.width()`
- `if-else` statements
- `if` statements that contain multiple instructions
- conditional operator `?:`
- file I/O

Midterm review: chapter 4

- declaring a loop index
- defining a constant

Midterm review: chapter 5

- library functions
- programmer-defined functions
- function *prototypes* and *headers*
- variable *scope*: local versus global
- `return` statements
- *arguments* or “parameters”
- formal, or “dummy” parameters
- `void` functions
- “parameterless” functions (a function that has no arguments)
- reference parameters