

c

# MORE (THAN YOU EVER WANTED TO KNOW) ON COMPILING

- `-o` option - specify output file
- `-O` option - specify optimization level when compiling
  - compiling goes to machine code
  - some machine code is faster/uses less space than others
  - optimization level makes optimization for these tradeoffs
  - CAREFUL -> high optimization levels can break code!
- `-Wall` - enables warning messages

# DATA TYPES:

## Non-floating point

- `int` - at least 16 bits
- `long` - at least 32 bits
- `long long` - at least 64 bits

## Floating point

- `float` - typically 32 bits
- `double` - typically 64 bits

Character: `char`

# PRINTING OUTPUT

- `printf(controlstring [, data])`
- `controlstring` indicates surrounding text to print, how to format variable printing
- `data` is optional - used when you want to print value of variable
  - says what variable to print
  - `controlstring` contains format specifiers for each `data` being printed

# FORMAT SPECIFIERS

- integer: `%d` (may also see `%i`)
  - can add additional formatting info
  - add number before d - specify min width `%3d`
  - specify 0-fill `%03d`
  - specify left justify `%-3d%`

# FORMAT SPECIFIERS (CONT.)

- float/double: %f, %e, %g
  - '%f': fixed point notation
  - '%e': exponential notation
  - %g: it choose between normal and exponential (drops trailing)
- number before decimal - total width to use
- number after decimal - how many places after the decimal point
- use 0 for 0-fill, use – for left justify



## FORMAT SPECIFIERS (CONT.)

- char: %c
- string: %s
  - same with int/float you can add
    - number to specify width
    - – to specify left-justify