3/1/23:

Debugging:

Gprof - program performance, finds bottlenecks
   program needs to be linked & compiled w / -pg

      then run w/ gprof /program

Make:
-build system
-gmake, cmake etc

can change default - goal to change "make files behavior"

phony target, ensures command won't happen unnecessarily

debug: builds debug version

~c changes director
-d print debugging info
-f changes Makefile
  -l check directory for Makefile
  -W warn undefined variables

:= assignment
:= lazy assignment
?= conditional assignment
   only happens if variable hasn't been initialized

automatic variables:

   $@ # of target

   $^ for dependencies of target

$? most recent dependencies

$< # of new directory

access to shell:
$(shell ...)

$(shell *.c)   list of c

*.0 = "globing" called wildcard in makefile

$(patsubst ..) ← pattern substitution   uses %

* globing   ~ to pattern matchy

%.0 : %.c
    clang -c $< -o $@

Can use make recursively

Can use include