Assignment 0 – make background

```
# Assignment 0

icc -O3 mxm.c
icc -O3 mxm.c mgen.c

icc -I${TACC_MKL_INC} -O3 mxm.c mgen.c \
    -Wl,-rpath,${TACC_MKL_LIB} -L${TACC_MKL_LIB} \
    -Wl,--start-group -lmkl_intel_lp64 …--end-group
```

Makes "a.out"

Space backslash = continue

Library "stuff"

Can use two steps: Compile, then link:

```
icc -O3 -c mxm.c mgen.c    ⟶    icc -O3 mxm.o mgen.o -o mxm
```

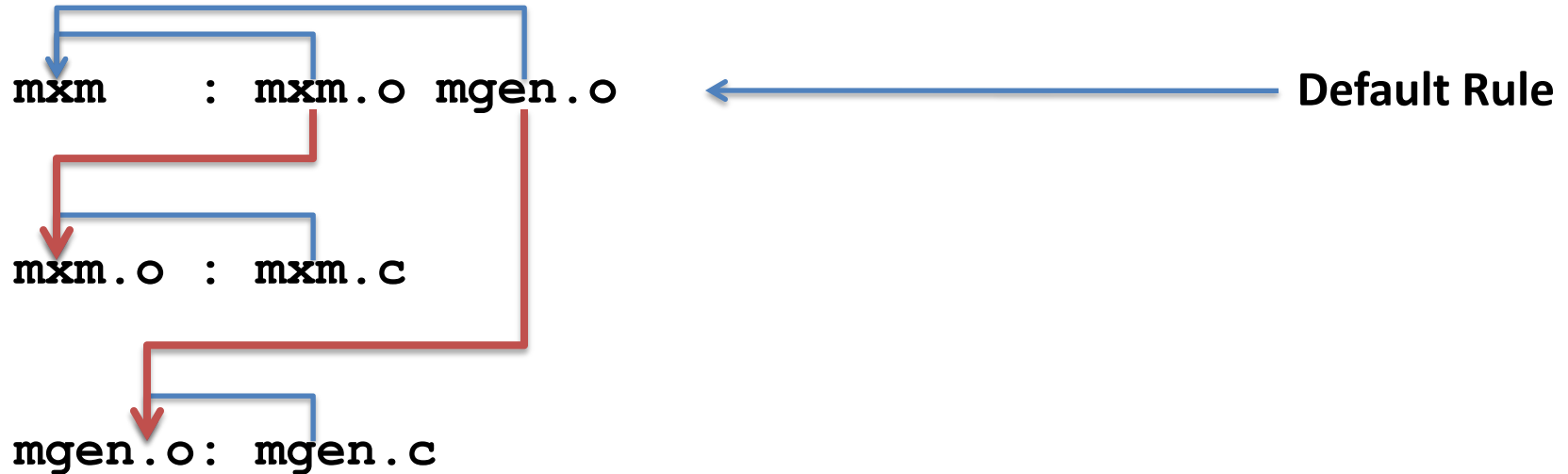| compile | → | Create ".o" files = objects. mxm.o, mgen.o | → | link | → | Create executable |

-c option
Stops at making objects.

-o <name> option
Name executable.

Assignment 0 - makefile, rules

```
# Assignment 0

mxm     : mxm.o mgen.o          ← Default Rule

mxm.o : mxm.c

mgen.o: mgen.c


clean :
```

Dependency Rules:
The target on the left must be newer than the sources on the right.
If not, run the shell command line immediately after dependency line.
BUT, check to see if each source is a target of another rule.
If, so interpret and obey that rule (…but check on other dependencies).

Assignment 0 – makefile, commands

```
# Assignment 0

mxm    : mxm.o mgen.o
➡         icc mxm.o mgen.o -o mxm              Makes mxm

mxm.o : mxm.c
➡         icc -O3 -c mxm.c                     Makes mxm.o

mgen.o: mgen.c
➡         icc -O3 -c mgen.c                    Makes mgen.o

clean :
➡         rm -rf *.o core mxm                  Removes
                                               generated
                                               Files.
```

Tab = ➡

Assignment 0 – makefile, macros

```
# Assignment 0
OBJS = mxm.o mgen.o                          Macro definition
mxm    :       $(OBJS)
         icc $(OBJS) -o $@                    Target


.c.o :                                        Suffix Rule
         icc -O3 -c $<                        Source of dependency




clean :
         rm -rf *.o core mxm
```

Assignment 0

```
# Assignment 0

CC          := icc
LINKER      := $(CC)

CFLAGS      := -O2 -I $(TACC_MKL_INC)
LDFLAGS     := -Wl,-rpath,${TACC_MKL_LIB} \
               -L$(TACC_MKL_LIB) -lmkl -lguide -lpthread

SRCS    := mxm.f mgen.f
OBJS    := $(patsubst %.f, %.o,  $(SRCS))

mxm: $(OBJS)
        $(LINKER) $(OBJS) $(LDFLAGS)   -o $@

%.o: %.c
        $(CC) $(CFLAGS)   -c $< -o $@
```

Macro modifier

Inference