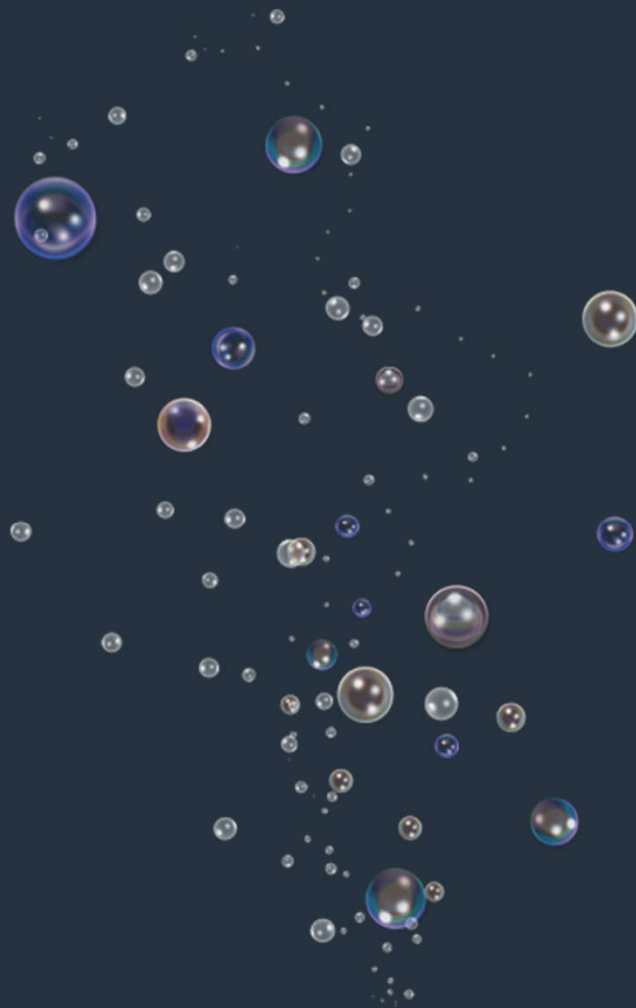




makefile综合实例

大连理工大学 赖晓晨



综合实例

```
INCLUDES = -I /home/nie/mysrc/include \
            -I /home/nie/mysrc/extern/include \
            -I /home/nie/mysrc/src \
            -I /home/nie/mysrc/libsrc \
            -I . \
            -I ..

EXT_CC_OPTS = -DEXT_MODE
RTM_CC_OPTS = -DUSE_RTMODEL
CFLAGS = -O
CFLAGS += $(EXT_CC_OPTS)
CFLAGS += $(RTM_CC_OPTS)
SRCS = tunnel.c rt_sim.c rt_nonfinite.c grt_main.c rt_logging.c \
      ext_svr.c updown.c ext_svr_transport.c \
      ext_work.c

OBJS=$(SRCS:.c=.o)
RM = rm -f
CC = gcc
LD = gcc
.PHONY: all
all: doom
doom : $(OBJS)
      $(LD) -o $@ $(OBJS) -lm
%.o : %.c
      $(CC) -c -o $@ $(CFLAGS) $(INCLUDES) $<

clean:
      $(RM) $(OBJS) doom
```

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            -I /home/nie/mysrc/extern/include \
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doom : $(OBJS)
      $(LD) -o $$@ $(OBJS) -lm
%.o : %.c
      $(CC) -c -o $$@ $(CFLAGS) $(INCLUDES) $<
clean:
      $(RM) $(OBJS) doom
```

宏

```
INCLUDES = -I /home/nie/mysrc/include \  
            -I /home/nie/mysrc/extern/include \  
            -I /home/nie/mysrc/src \  
            -I /home/nie/mysrc/libsrc \  
            -I . \  
            -I ..
```

```
EXT_CC_OPTS = -DEXT_MODE  
RTM_CC_OPTS = -DUSE_RTMODEL  
CFLAGS = -O  
CFLAGS += $(EXT_CC_OPTS)  
CFLAGS += $(RTM_CC_OPTS)  
SRCS = tunnel.c rt_sim.c rt_nonfinite.c grt_main.c rt_logging.c \  
        ext_svr.c updown.c ext_svr_transport.c \  
        ext_work.c
```

```
OBJS=$(SRCS: .c = .o)  
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LD = gcc  
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all: doom  
doom : $(OBJS)  
        $(LD) -o $$@ $(OBJS) -lm  
%.o : %.c  
        $(CC) -c -o $$@ $(CFLAGS) $(INCLUDES) $<  
clean:  
        $(RM) $(OBJS) doom
```

头文件搜索目录,
作为编译的参数

```
INCLUDES = -I /home/nie/mysrc/include \  
            -I /home/nie/mysrc/extern/include \  
            -I /home/nie/mysrc/src \  
            -I /home/nie/mysrc/libsrc \  
            -I . \  
            -I ..
```

```
EXT_CC_OPTS = -DEXT_MODE
```

```
RTM_CC_OPTS = -DUSE_RTMODEL
```

```
CFLAGS = -O
```

```
CFLAGS += $(EXT_CC_OPTS)
```

```
CFLAGS += $(RTM_CC_OPTS)
```

```
SRCS = tunnel.c rt_sim.c rt_nonfinite.c grt_main.c rt_logging.c \  
        ext_svr.c updown.c ext_svr_transport.c \  
        ext_work.c
```

```
OBJS=$(SRCS:.c=.o)
```

```
RM = rm -f
```

```
CC = gcc
```

```
LD = gcc
```

```
.PHONY: all
```

```
all: doom
```

```
doom : $(OBJS)
```

```
        $(LD) -o $@ $(OBJS) -lm
```

```
%.o : %.c
```

```
        $(CC) -c -o $@ $(CFLAGS) $(INCLUDES) $<
```

```
clean:
```

```
        $(RM) $(OBJS) doom
```

在makefile中定义了这个宏，相当于在源码中有：#define EXT_MODE

```
INCLUDES = -I /home/nie/mysrc/include \
            -I /home/nie/mysrc/extern/include \
            -I /home/nie/mysrc/src \
            -I /home/nie/mysrc/libsrc \
            -I . \
            -I ..

EXT_CC_OPTS = -DEXT_MODE
RTM_CC_OPTS = -DUSE_RTMODEL
CFLAGS = -O
CFLAGS += $(EXT_CC_OPTS)
CFLAGS += $(RTM_CC_OPTS)
SRCS = tunnel1.c rt_sim.c rt_nonfinite.c grt_main.c rt_logging.c \
      ext_svr.c updown.c ext_svr_transport.c \
      ext_work.c

OBJS=$(SRCS:.c = .o)
RM = rm -f
CC = gcc
LD = gcc
.PHONY: all
all: doom
doom : $(OBJS)
      $(LD) -o $$@ $(OBJS) -lm
%.o : %.c
      $(CC) -c -o $$@ $(CFLAGS) $(INCLUDES) $<
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            -I /home/nie/mysrc/libsrc \  
            -I . \  
            -I ..
```

```
EXT_CC_OPTS = -DEXT_MODE  
RTM_CC_OPTS = -DUSE_RTMODEL
```

```
CFLAGS = -O
```

```
CFLAGS += $(EXT_CC_OPTS)
```

```
CFLAGS += $(RTM_CC_OPTS)
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```
SRCS = tunnel.c rt_sim.c rt_nonfinite.c grt_main.c rt_logging.c \  
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```
OBJS=$(SRCS:.c = .o)
```

```
RM = rm -f
```

```
CC = gcc
```

```
LD = gcc
```

```
.PHONY: all
```

```
all: doom
```

```
doom : $(OBJS)
```

```
      $(LD) -o $$@ $(OBJS) -lm
```

```
%.o : %.c
```

```
      $(CC) -c -o $$@ $(CFLAGS) $(INCLUDES) $<
```

```
clean:
```

```
      $(RM) $(OBJS) doom
```

编译器的编译选项

```
INCLUDES = -I /home/nie/mysrc/include \  
            -I /home/nie/mysrc/extern/include \  
            -I /home/nie/mysrc/src \  
            -I /home/nie/mysrc/libsrc \  
            -I . \  
            -I ..  
EXT_CC_OPTS = -DEXT_MODE  
RTM_CC_OPTS = -DUSE_RTMODEL  
CFLAGS = -O  
CFLAGS += $(EXT_CC_OPTS)  
CFLAGS += $(RTM_CC_OPTS)  
SRCS = tunel1.c rt_sim.c rt_nonfinite.c grt_main.c rt_logging.c \  
        ext_svr.c updown.c ext_svr_transport.c\  
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        $(LD) -o $$@ $(OBJS) -lm  
%.o : %.c  
        $(CC) -c -o $$@ $(CFLAGS) $(INCLUDES) $<  
clean:  
        $(RM) $(OBJS) doom
```

所有要编译的源文件列表


```

INCLUDES = -I /home/nie/mysrc/include \
            -I /home/nie/mysrc/extern/include \
            -I /home/nie/mysrc/src \
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CFLAGS = -O
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      ext_svr.c updown.c ext_svr_transport.c \
      ext_work.c

```

OBJS=\$(SRCS: .c = .o)

各个源文件对应的
目标列表

```

RM = rm -f
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LD = gcc
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doom : $(OBJS)
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%.o : %.c
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```
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```
EXT_CC_OPTS = -DEXT_MODE
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RTM_CC_OPTS = -DUSE_RTMODEL
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```
CFLAGS = -O
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SRCS = tunnel.c rt_sim.c rt_nonfinite.c grt_main.c rt_logging.c \  
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```

```
OBJS=$(SRCS:.c=.o)
```

```
RM = rm -f
```

删除命令

```
CC = gcc
```

```
LD = gcc
```

```
.PHONY: all
```

```
all: doom
```

```
doom : $(OBJS)
```

```
        $(LD) -o $@ $(OBJS) -lm
```

```
%.o : %.c
```

```
        $(CC) -c -o $@ $(CFLAGS) $(INCLUDES) $<
```

```
clean:
```

```
        $(RM) $(OBJS) doom
```

```

INCLUDES = -I /home/nie/mysrc/include \
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编译器用gcc

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```

链接器用gcc

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伪目标

```

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```

依赖关系和编译规则

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clean:
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```

伪目标：删除生成文件



嵌入式软件设计

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