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软 件 学 院

《实用操作系统》实验报告

**题　　目 实验3 鸿蒙LiteOS-a内核移植——增加一个单板**

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**班　　级 软工三班**

**实验时间 2023/10/17**

**2023 年 10 月 17 日**

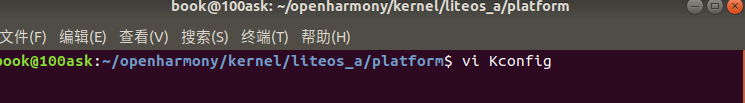
# 实验目的

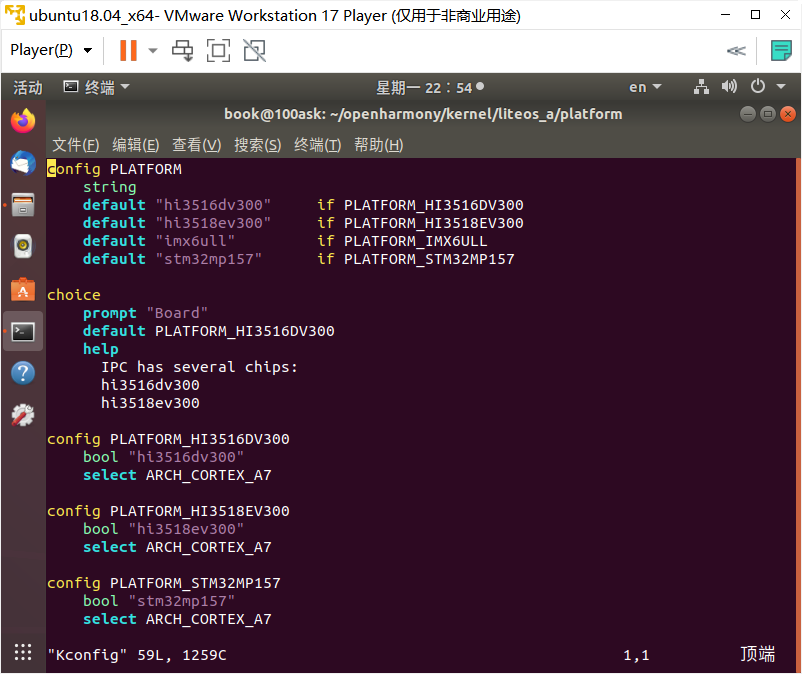
仿照STM32MP157、IMX6ULL两个单板，添加一个新的单板，以后修改源码让它再次支持STM32MP157或IMX6ULL。

# 实验步骤

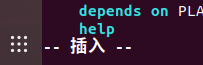
1.1 配置界面里添加单板

打开/openharmony/kernel/liteos\_a/platform下的Kconfig文件

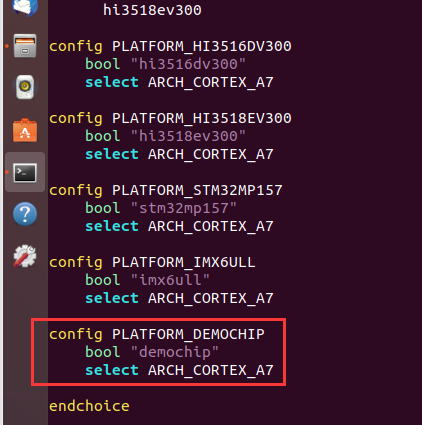


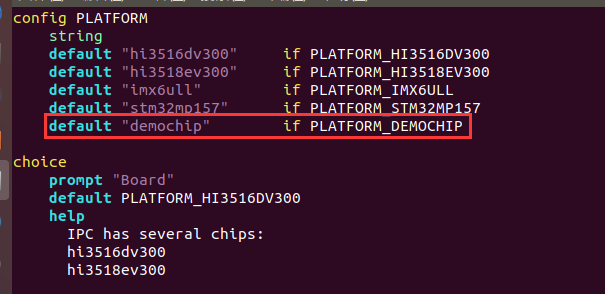


输入i左下角变成“插入”进入insert模式即可编辑文件



仿照代码添加一个新的板子demochip

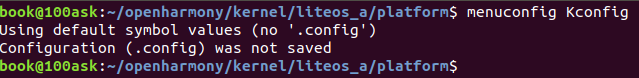


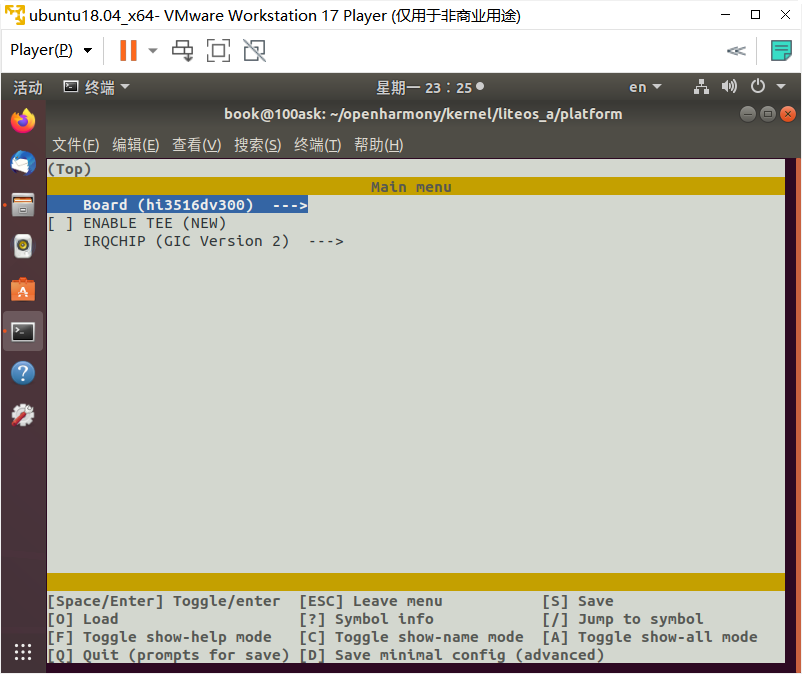


按Esc退出编辑模式，输入:wq并回车保存

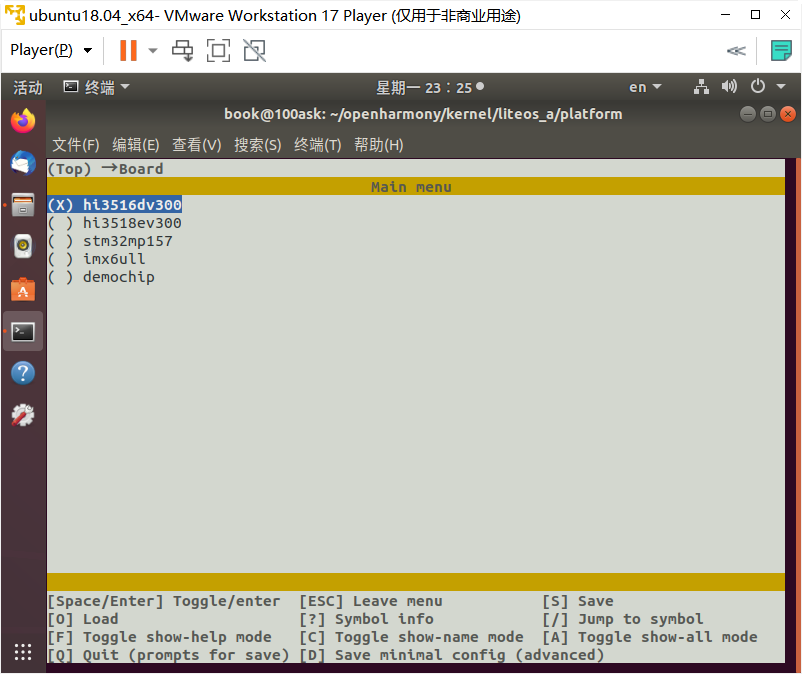
用menuconfig指令打开Kconfig文件

menuconfig Kconfig



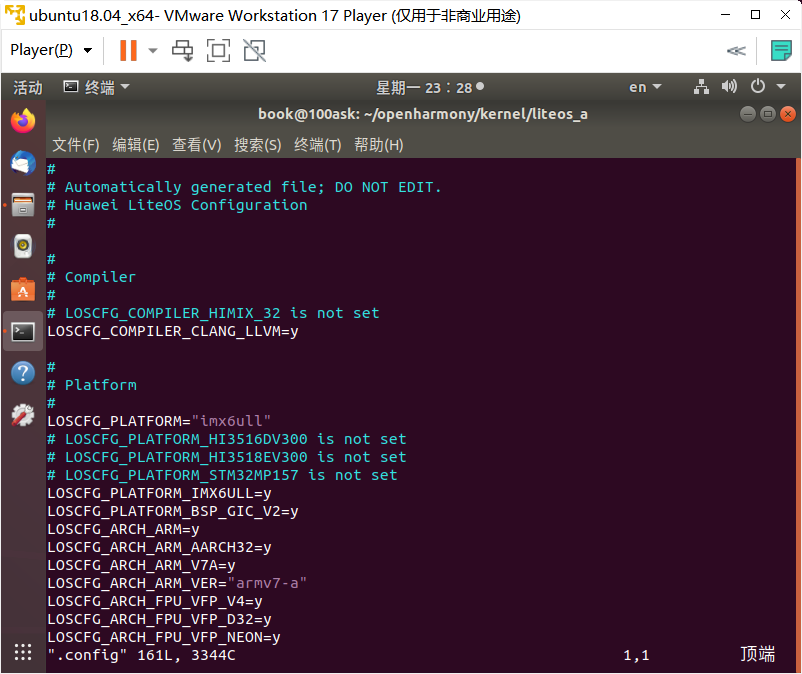


选择第一个进入后即可看到刚才添加的单板demochip

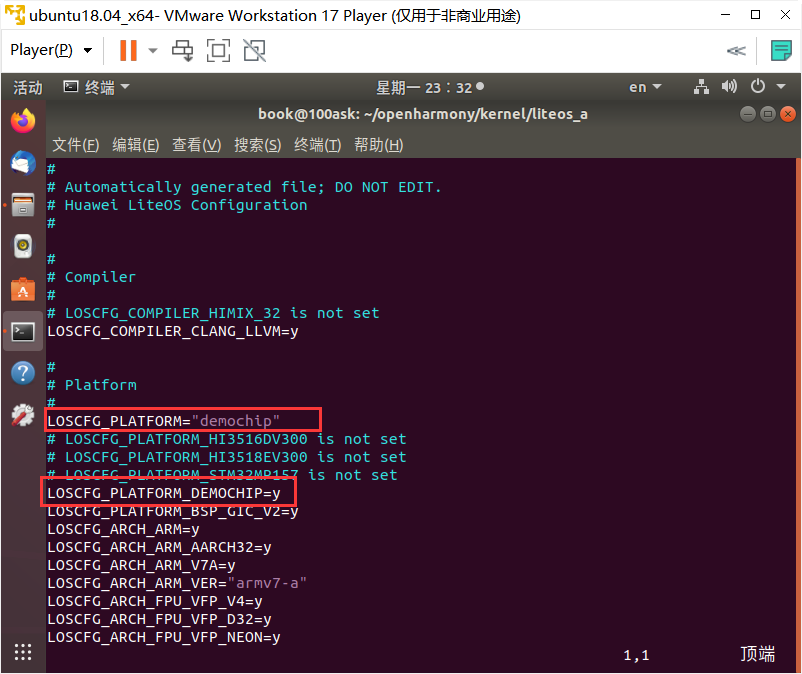


打开.config文件



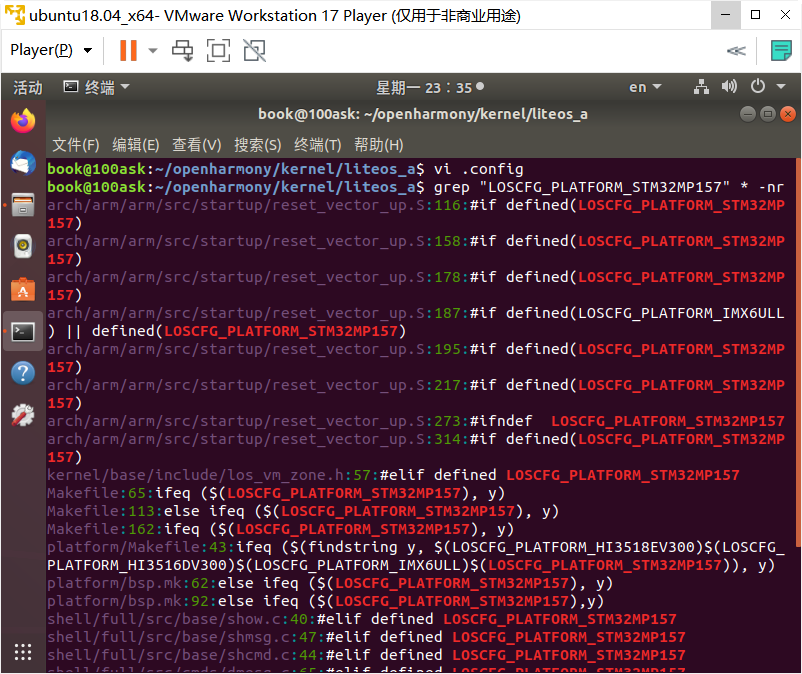


进行更改并保存

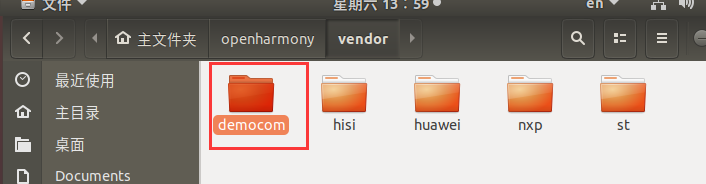


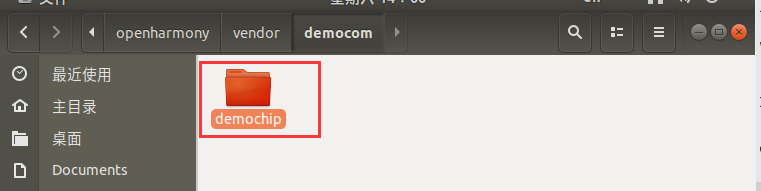
1.2 添加源码

grep "LOSCFG\_PLATFORM\_STM32MP157" \* -nr



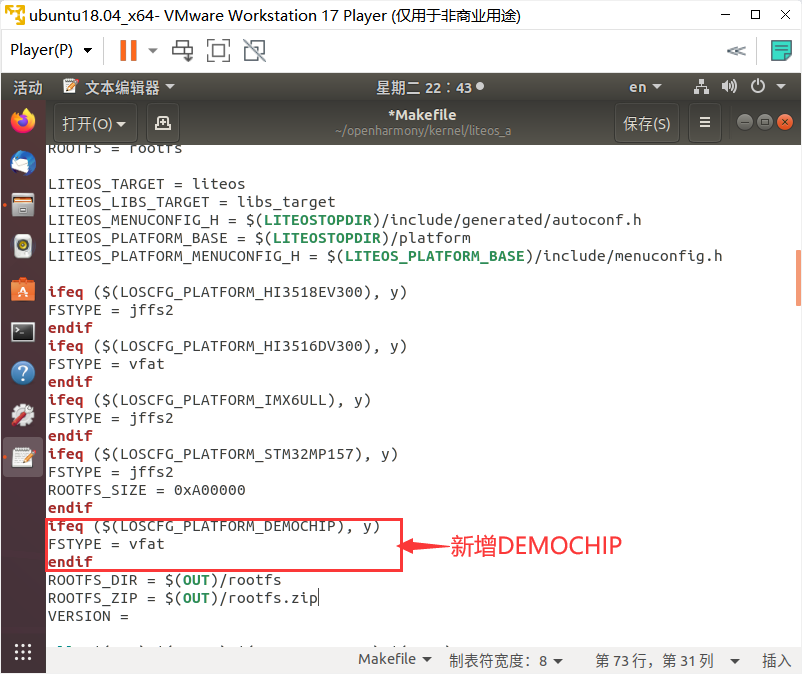
在openharmony/vendor目录下创建：democom/demochip目录，里面放置demochip.mk（从/vendor/st/stm32mp157/stm32mp157.mk复制过去）

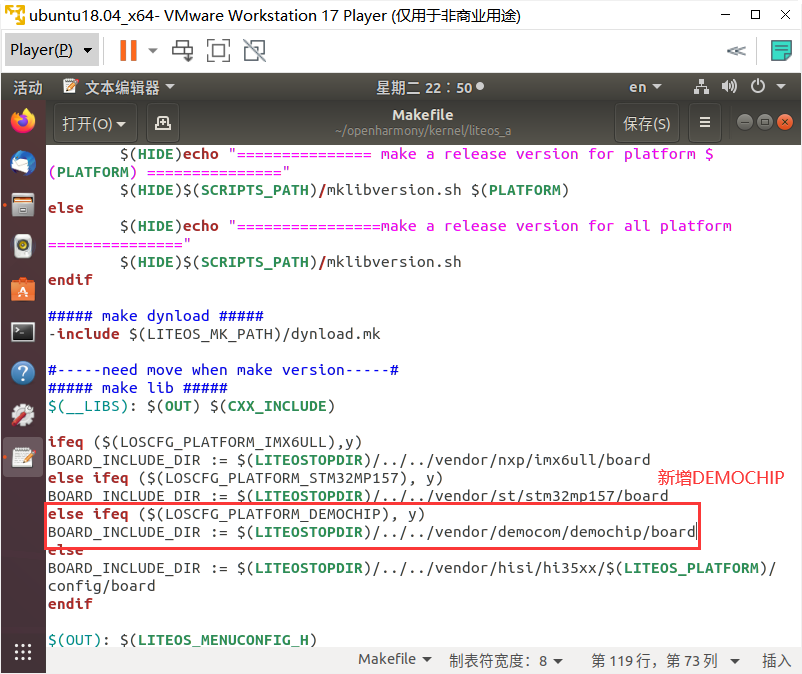




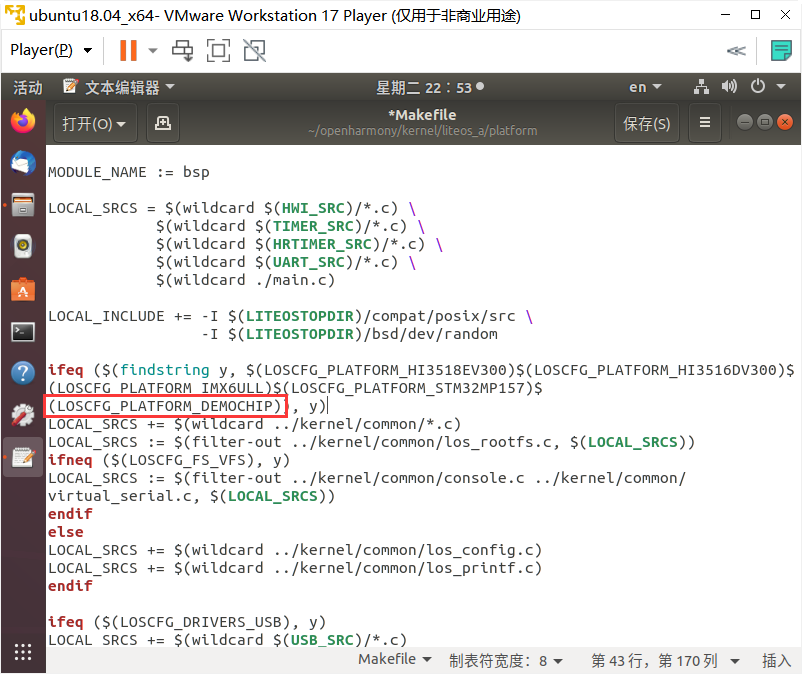
1.3 Makefile中根据配置项修改

修改/openharmony/kernel/liteos\_a/Makefile

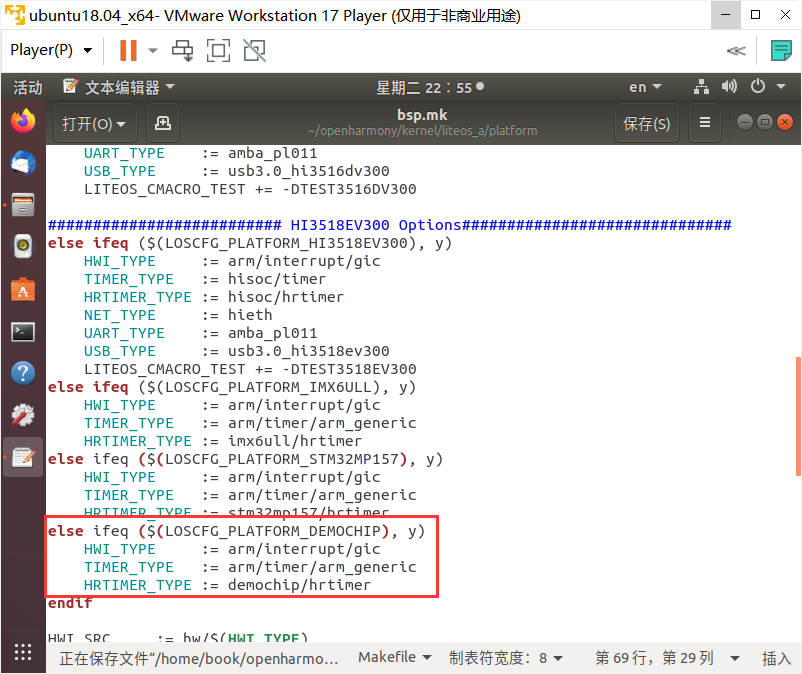


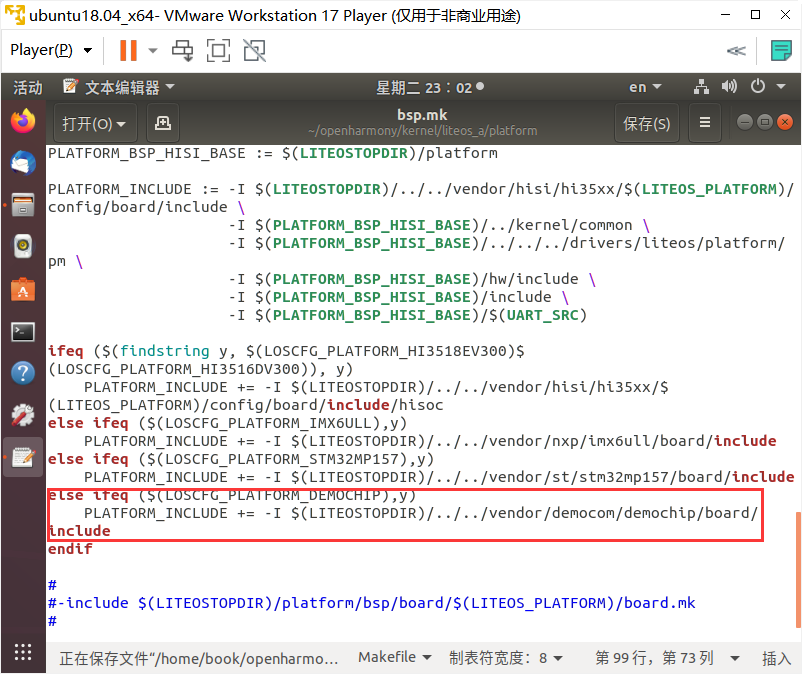


修改/openharmony/kernel/liteos\_a/platform/Makefile

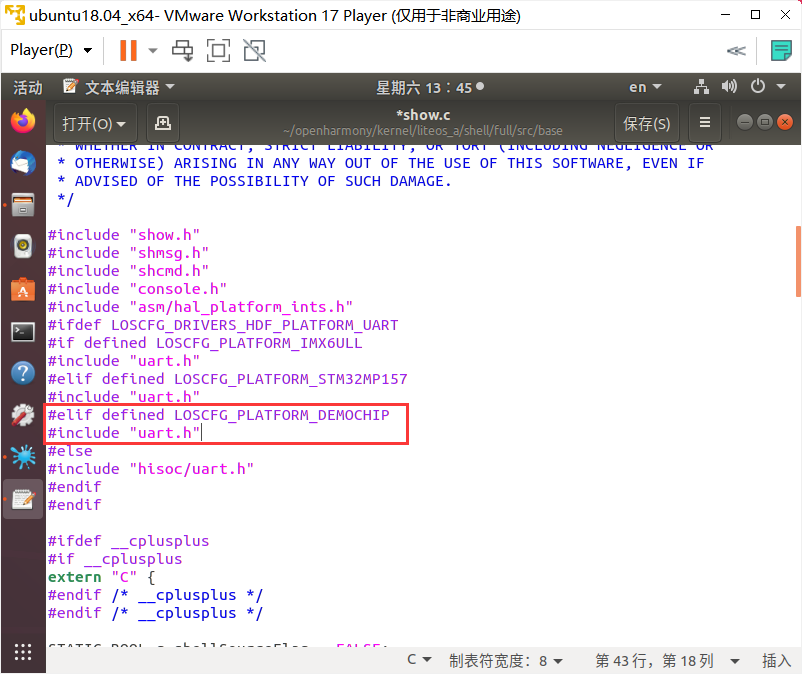


修改/openharmony/kernel/liteos\_a/platform/platform/bsp.mk

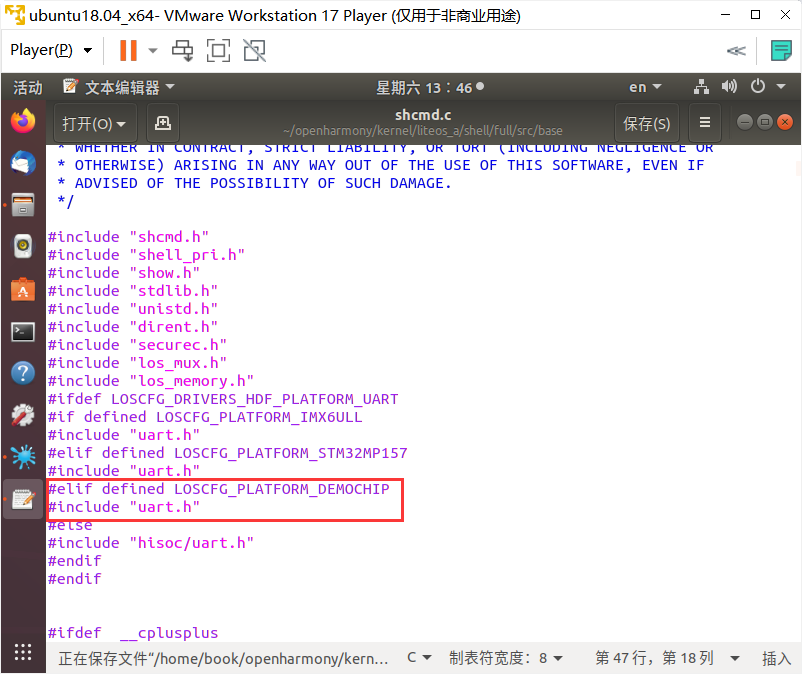




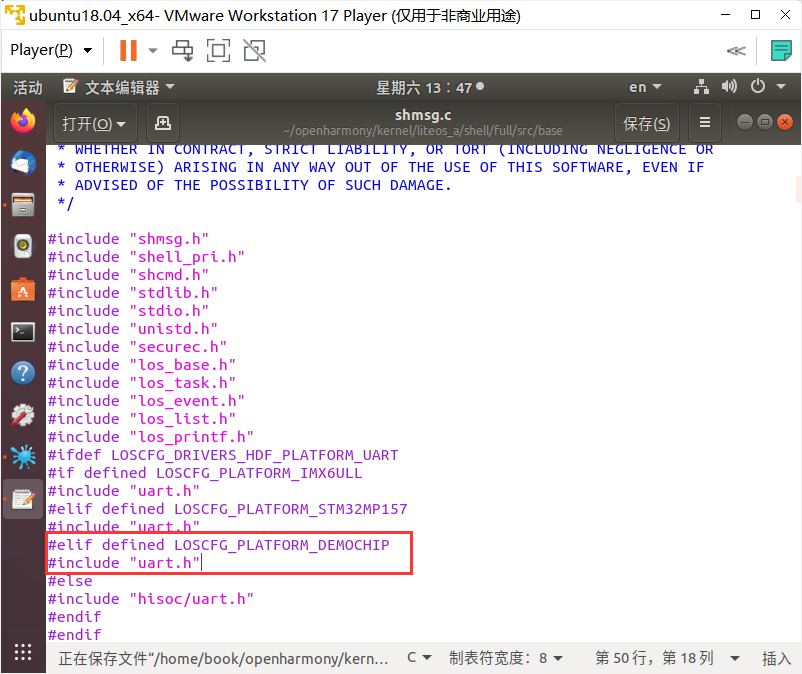
修改openharmony/kernel/liteos\_a/shell/full/src/base/show.c



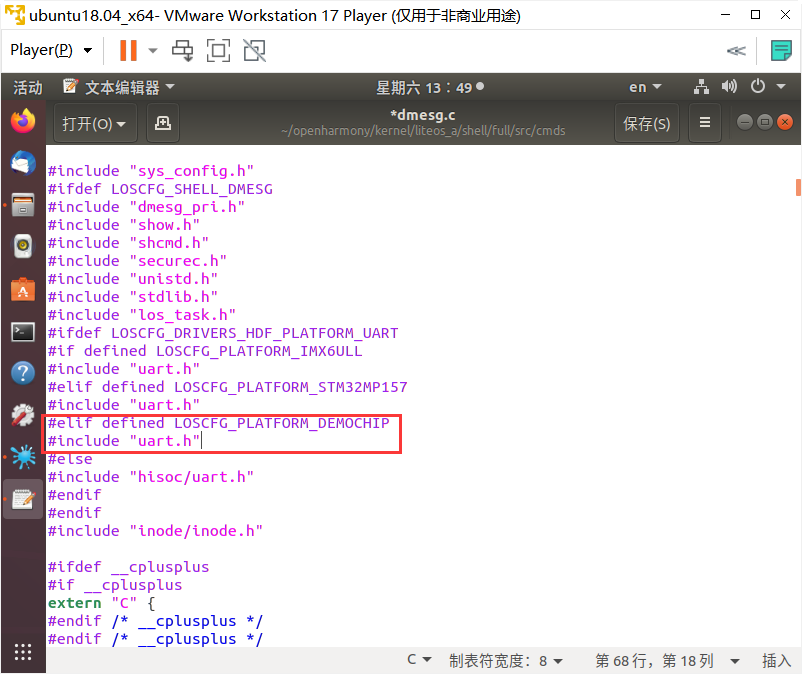
修改openharmony/kernel/liteos\_a/shell/full/src/base/shcmd.c



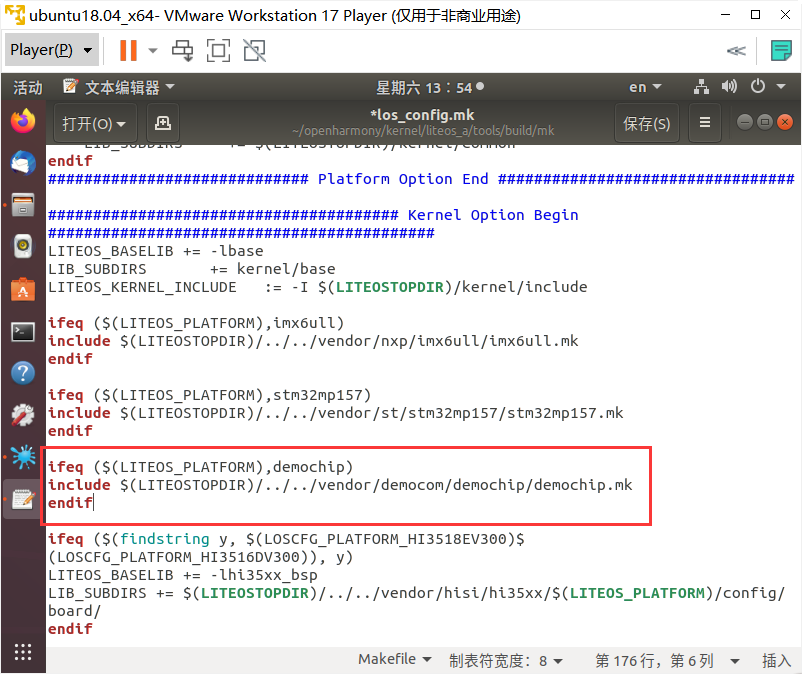
修改openharmony/kernel/liteos\_a/shell/full/src/base/shmsg.c



修改 openharmony/kernel/liteos\_a/shell/full/src/cmds/dmesg.c

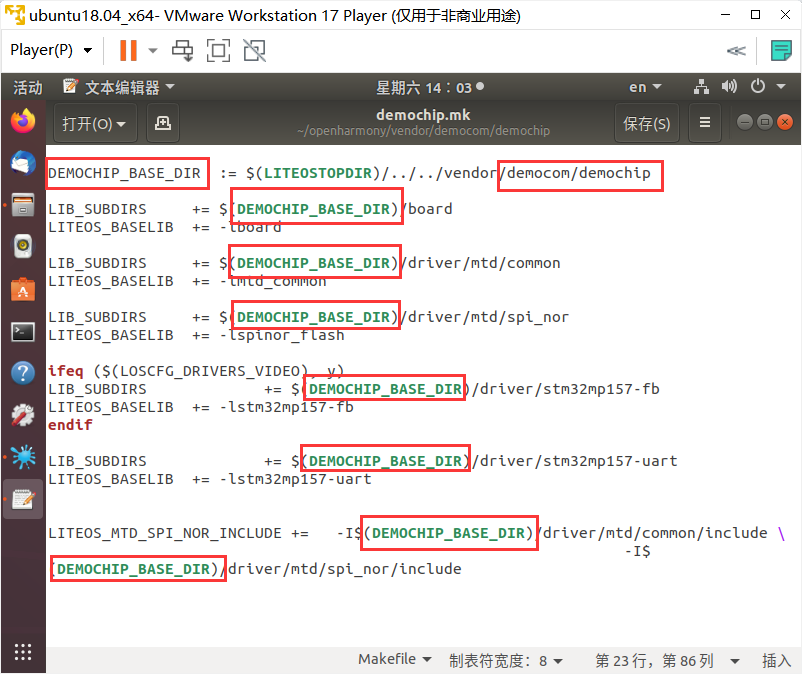


修改 openharmony/kernel/liteos\_a/tools/build/mk/los\_config.mk



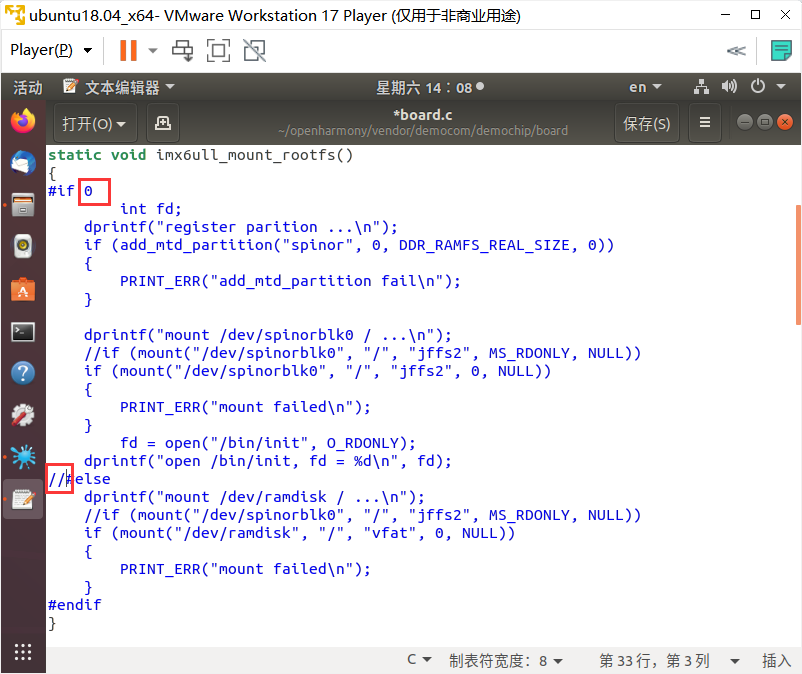
修改 openharmony/vendor/democom/demochip/demochip.mk

修改第一行的路径，将变量名称改为DEMOCHIP\_BASE\_DIR后面相应位置的变量全部更改



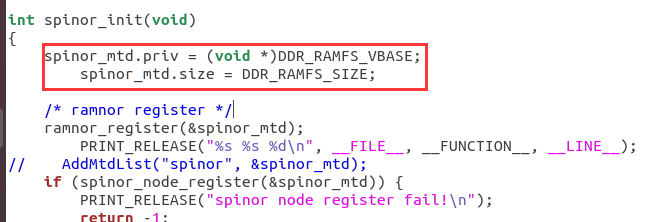
修改openharmony/vendor/democom/demochip/board/board.c

将第一个#if 1修改为#if 0，并将#if 与 #endif之间的else注释掉

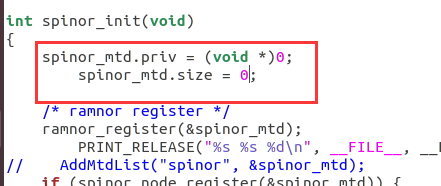


修改openharmony/vendor/democom/demochip/driver/mtd/spi\_nor/sr

c/common/spinor.c

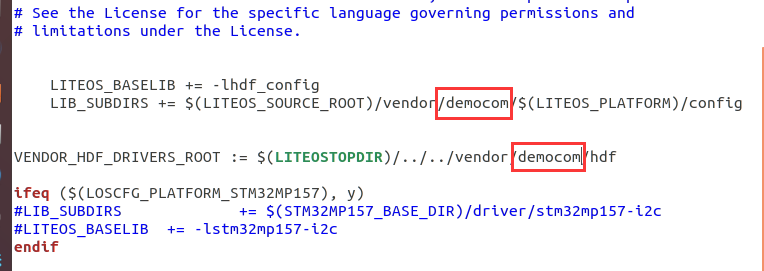


修改为

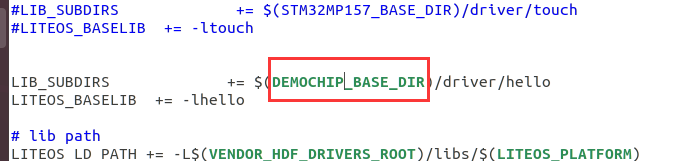


修改openharmony/vendor/democom/hdf/hdf\_vendor.mk

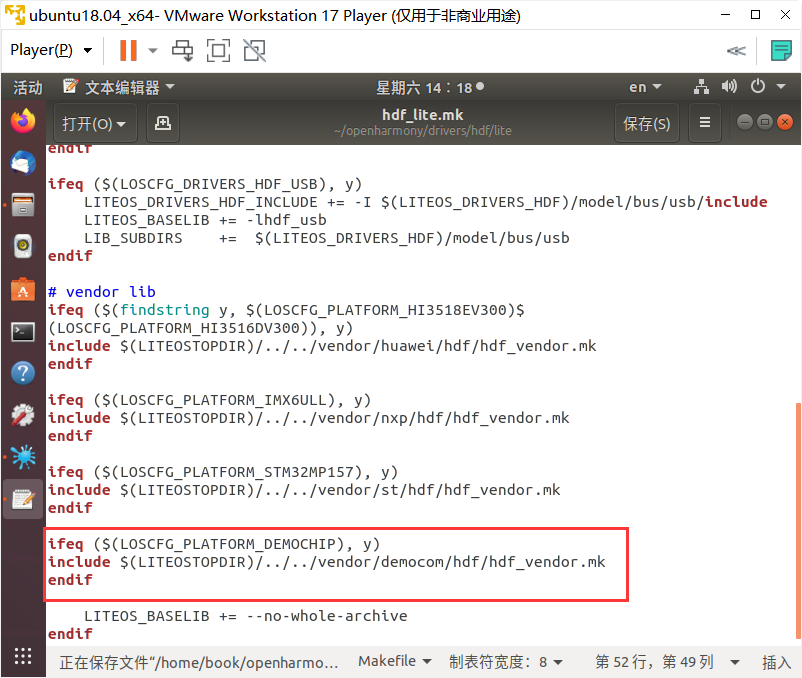
将st改为democom



将STM32MP157\_BASE\_DIR修改为DEMOCHIP



修改openharmony/drvivers/hdf/lite/hdf\_lite.mk

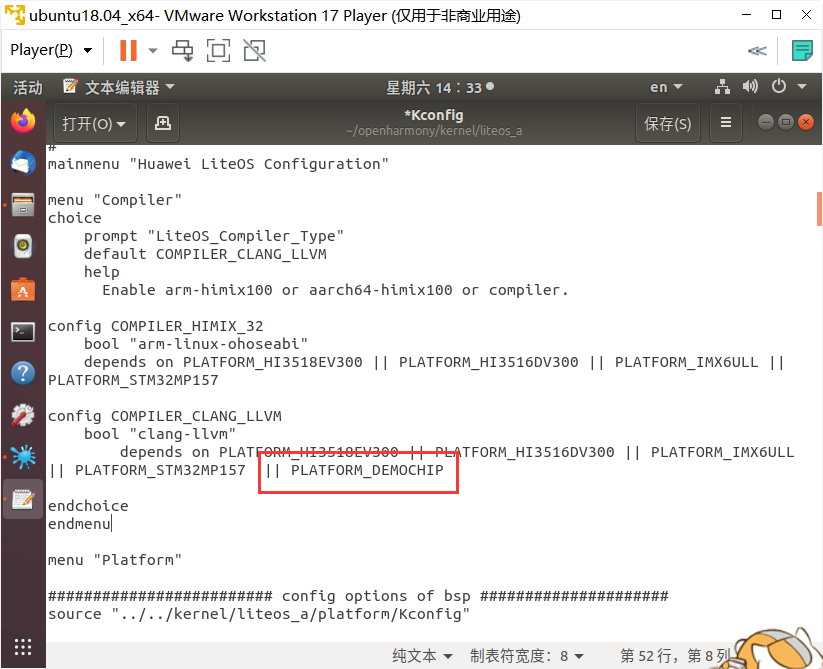


修改 openharmony/vendor/democom/demochip/driver/stm32mp157-

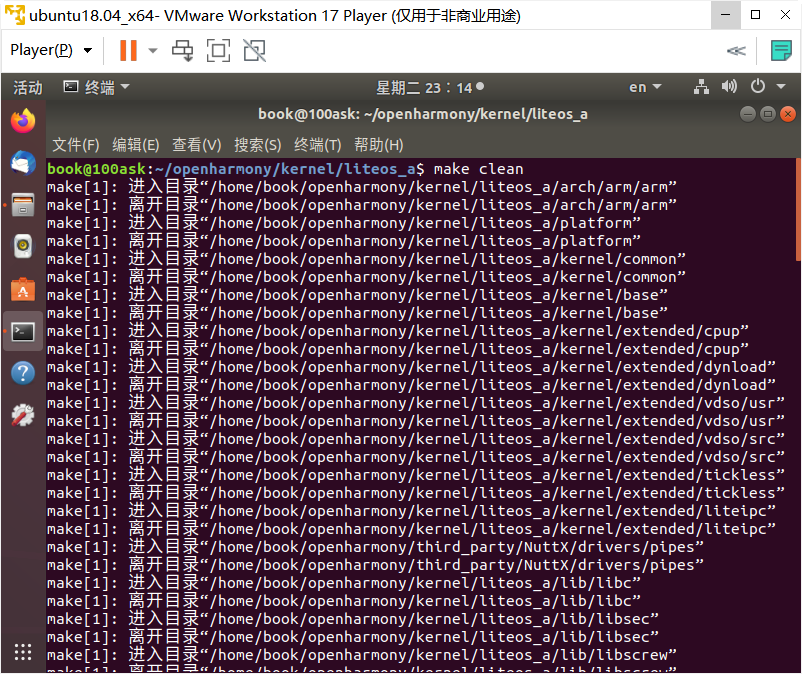
fb/stm32mp157\_lcd.c （注释掉这两行）



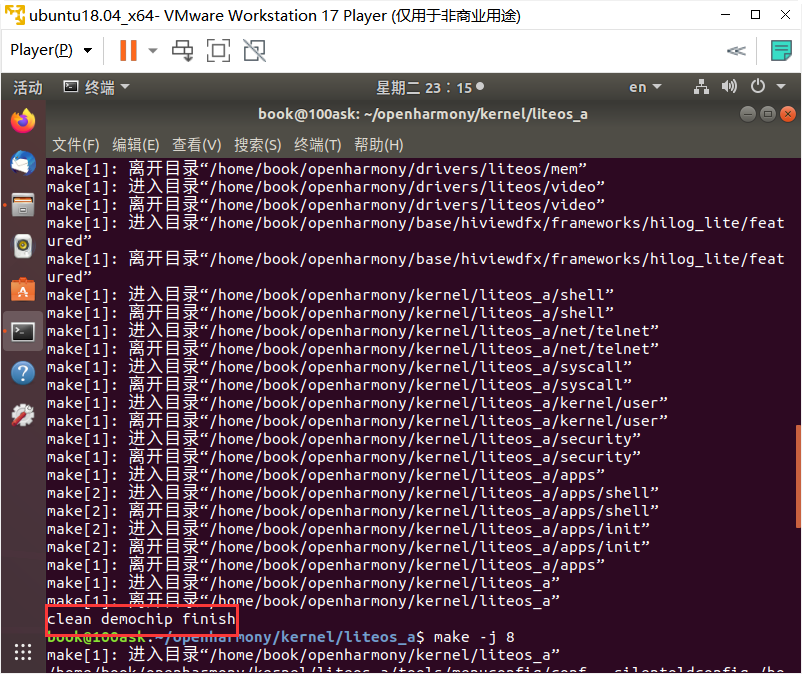
修改 openharmony/kernel/liteos\_a/Kconfig



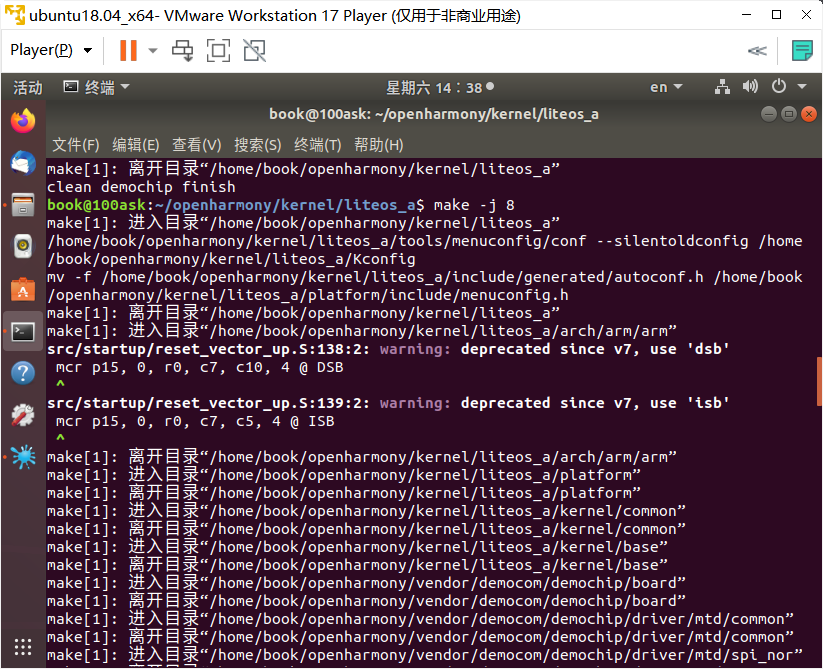
1.4 能否编译通过



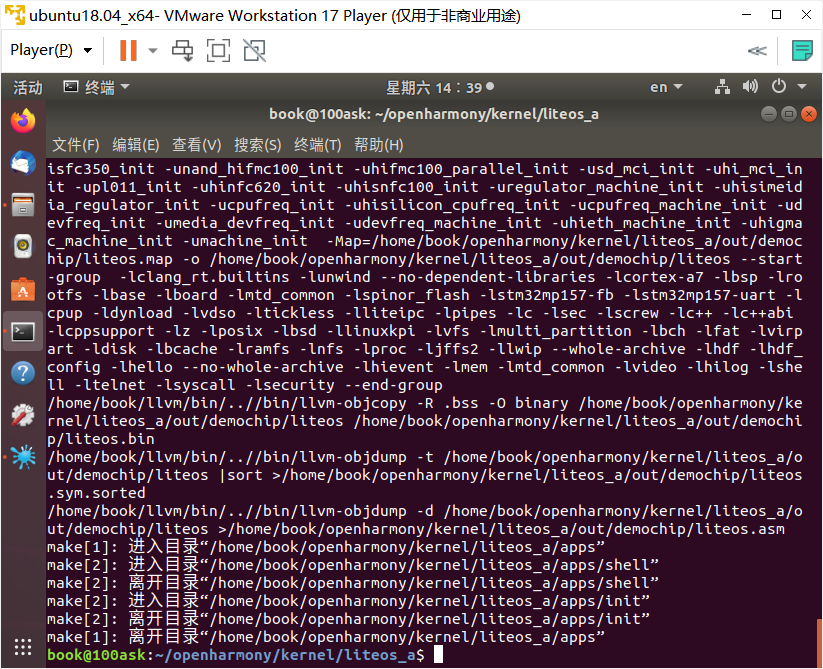
Make clean



Make -j 8进行编译



成功编译，实验完成



# 实验遇到的问题及其解决方法

无

# 我的体会

通过本次实验，我学会了如何通过修改配置文件，在鸿蒙liteOS中添加一块新的单板，并且成功进行了编译。