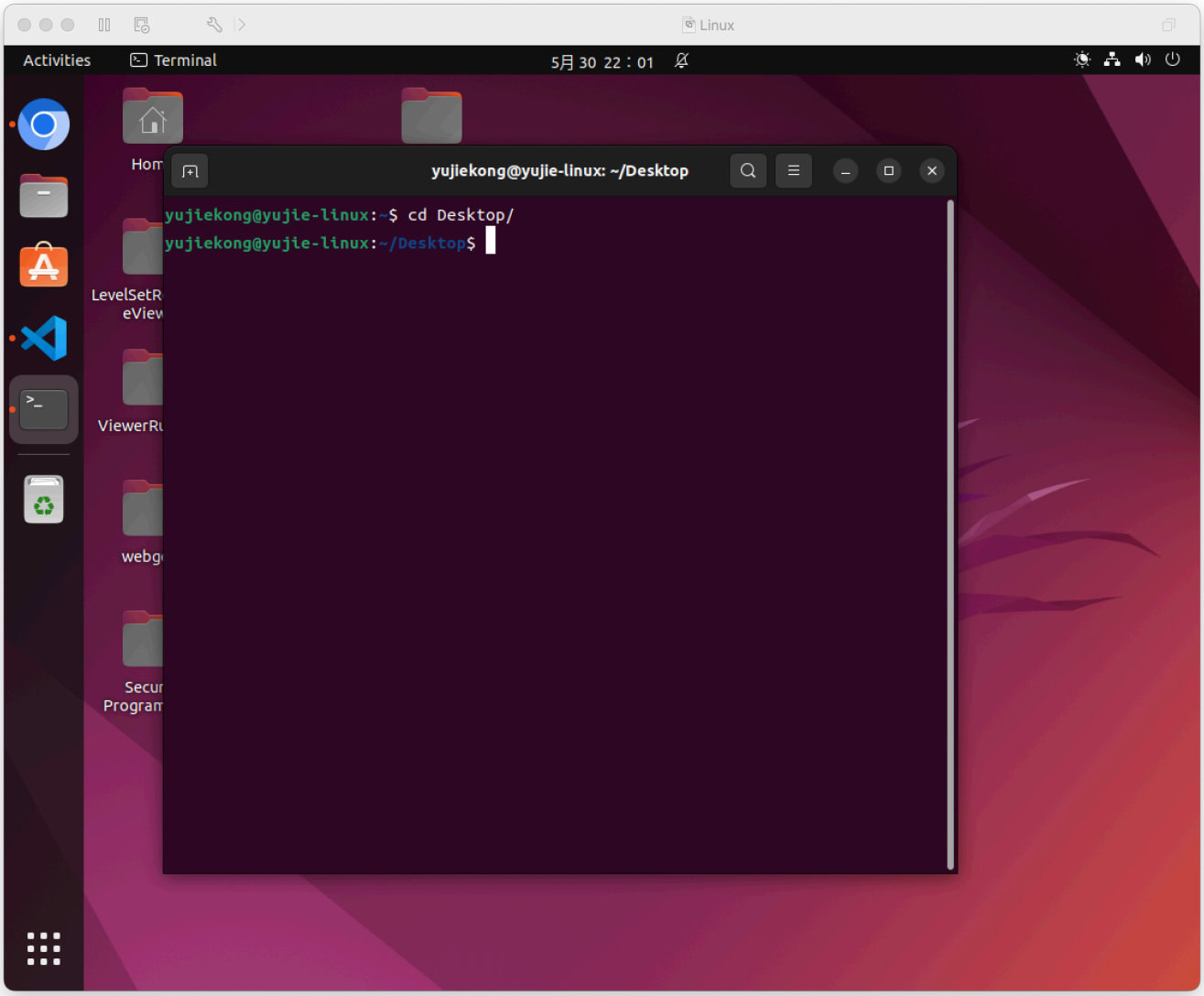
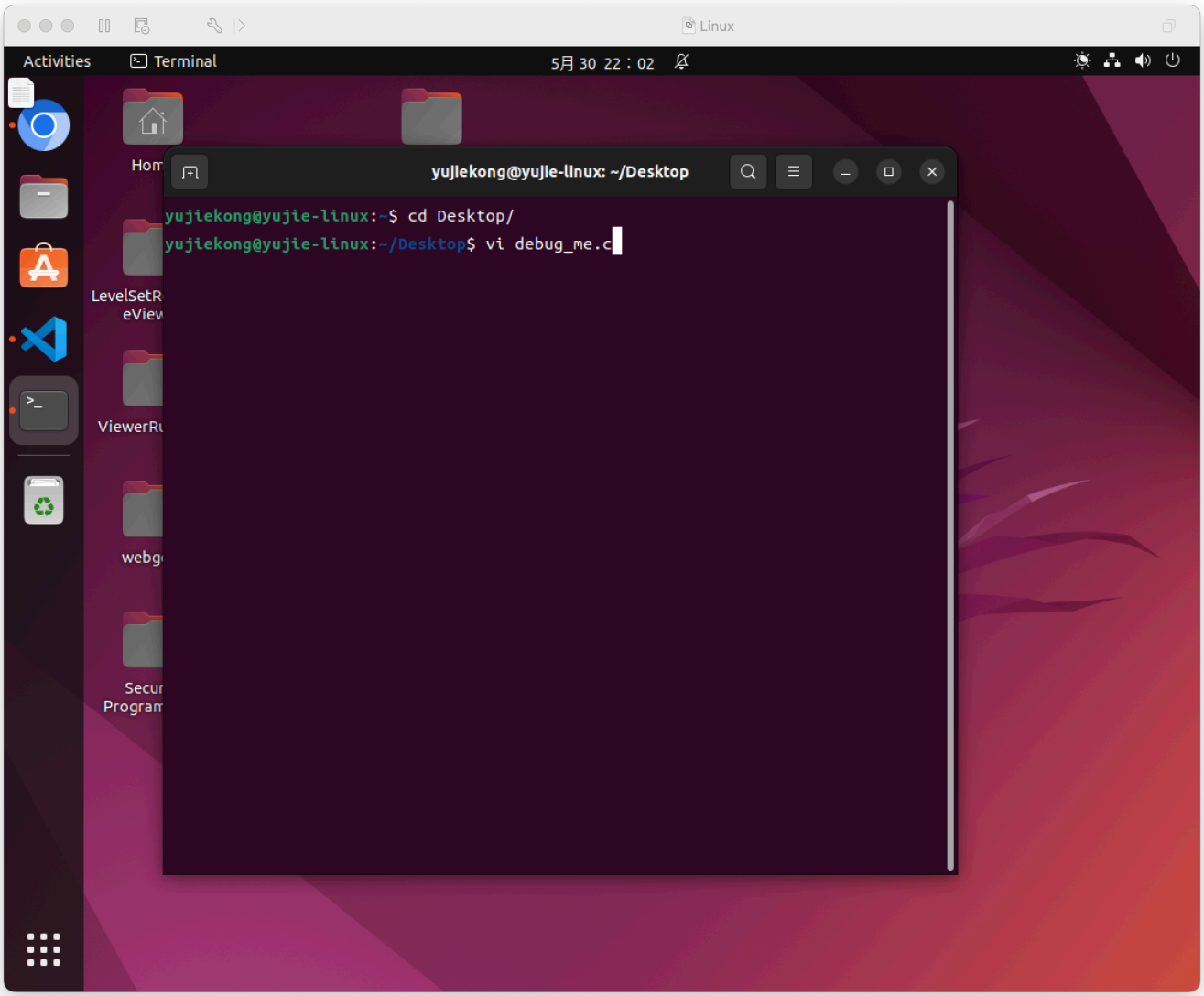
LAB2.2 Running a Hello World Program in C using GCC

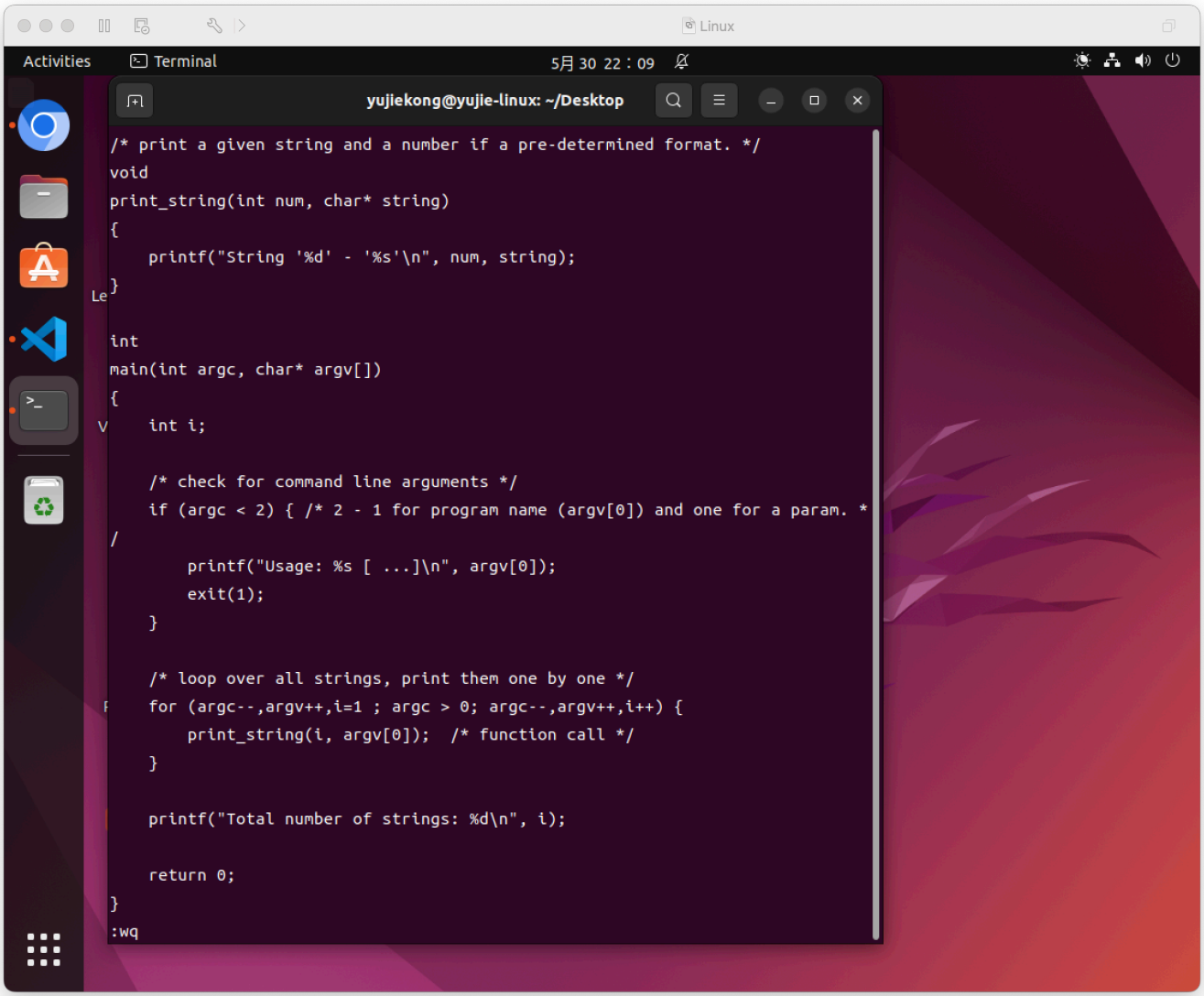
Open the Terminal in Ubuntu.



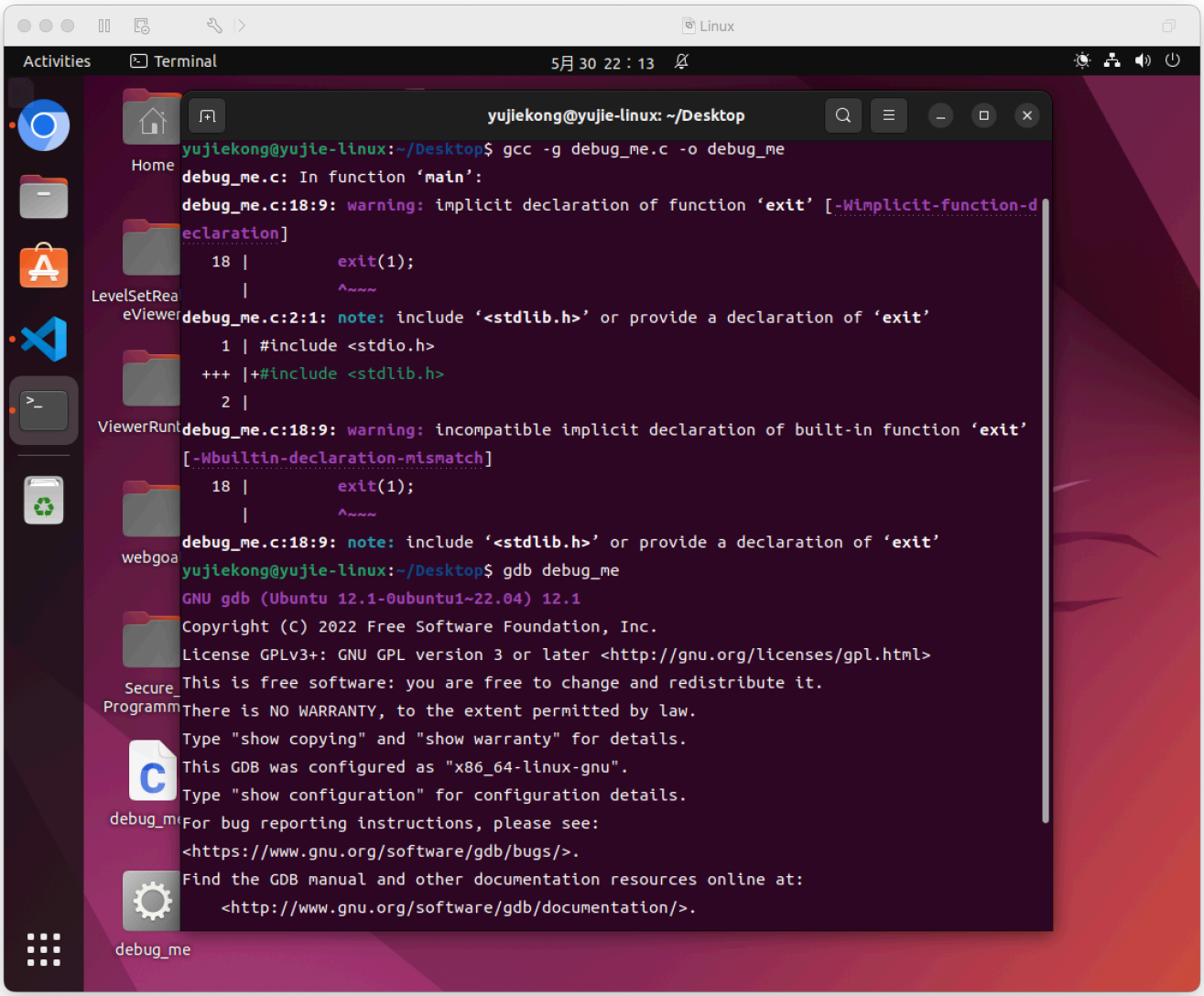
Create 'debug_me.c':



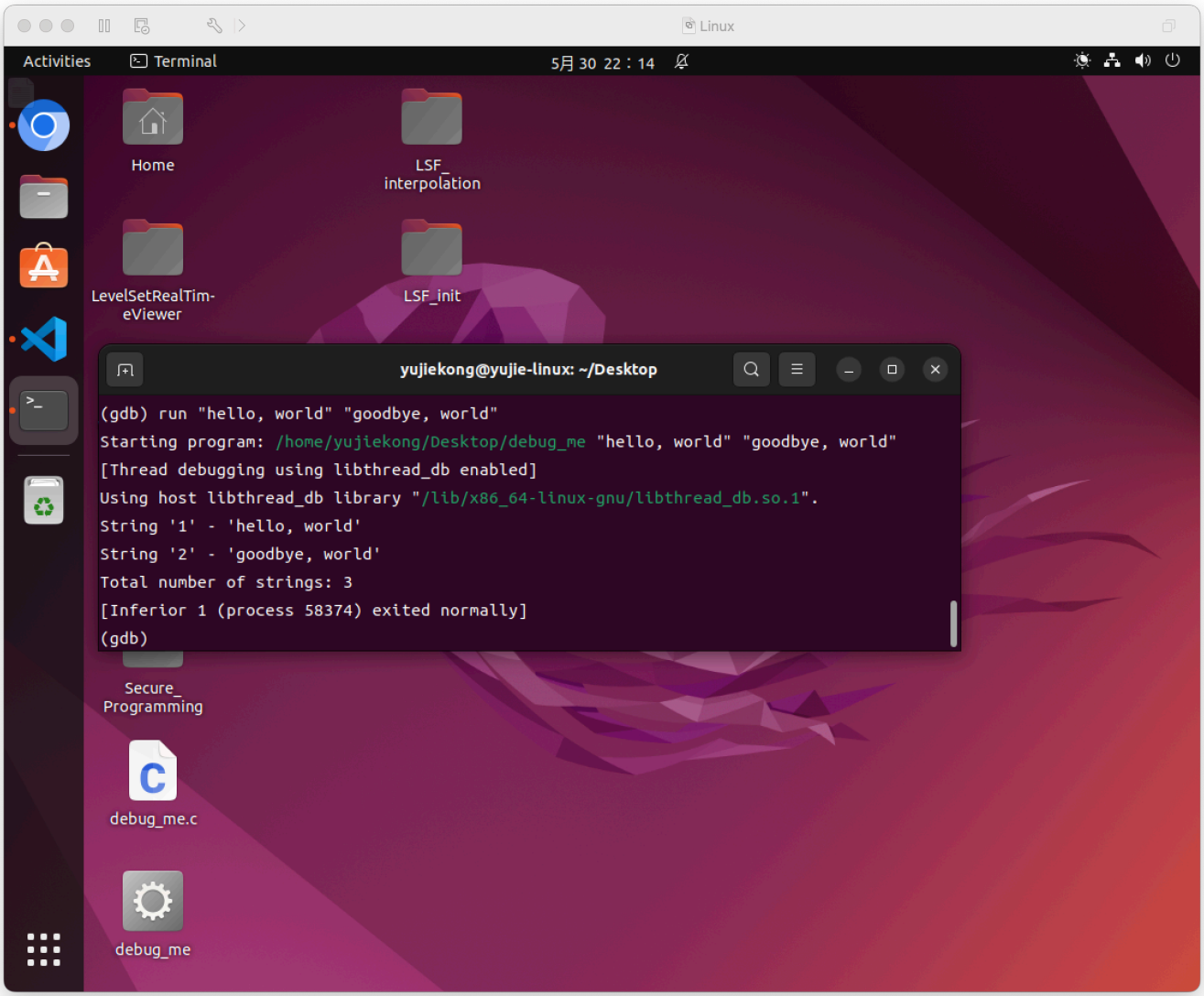
按i进入插入模式后，粘贴后保存退出：



Invoke gdb to debug 'debug_me.c':

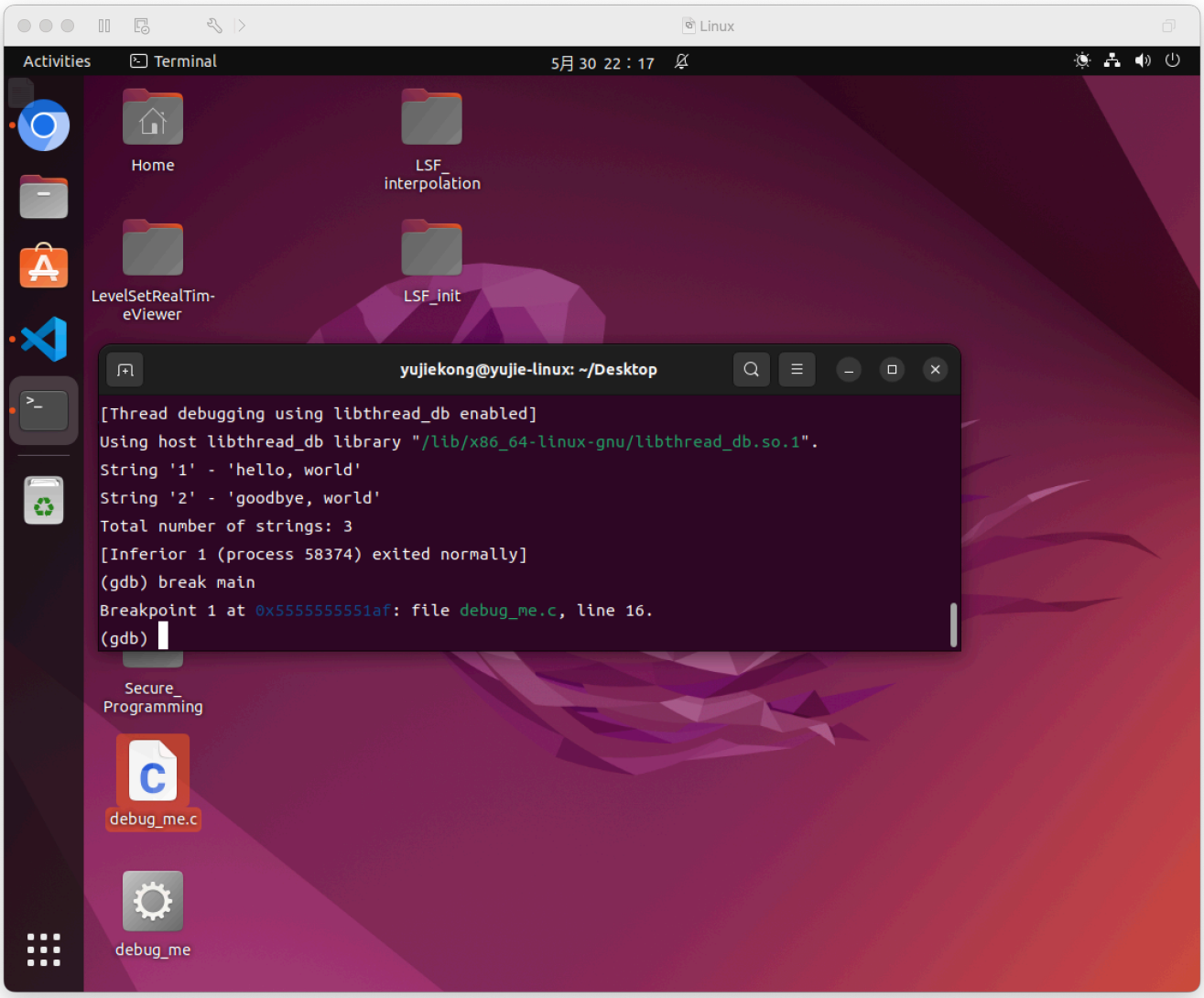


Run the program inside gdb:



Set breakpoints.

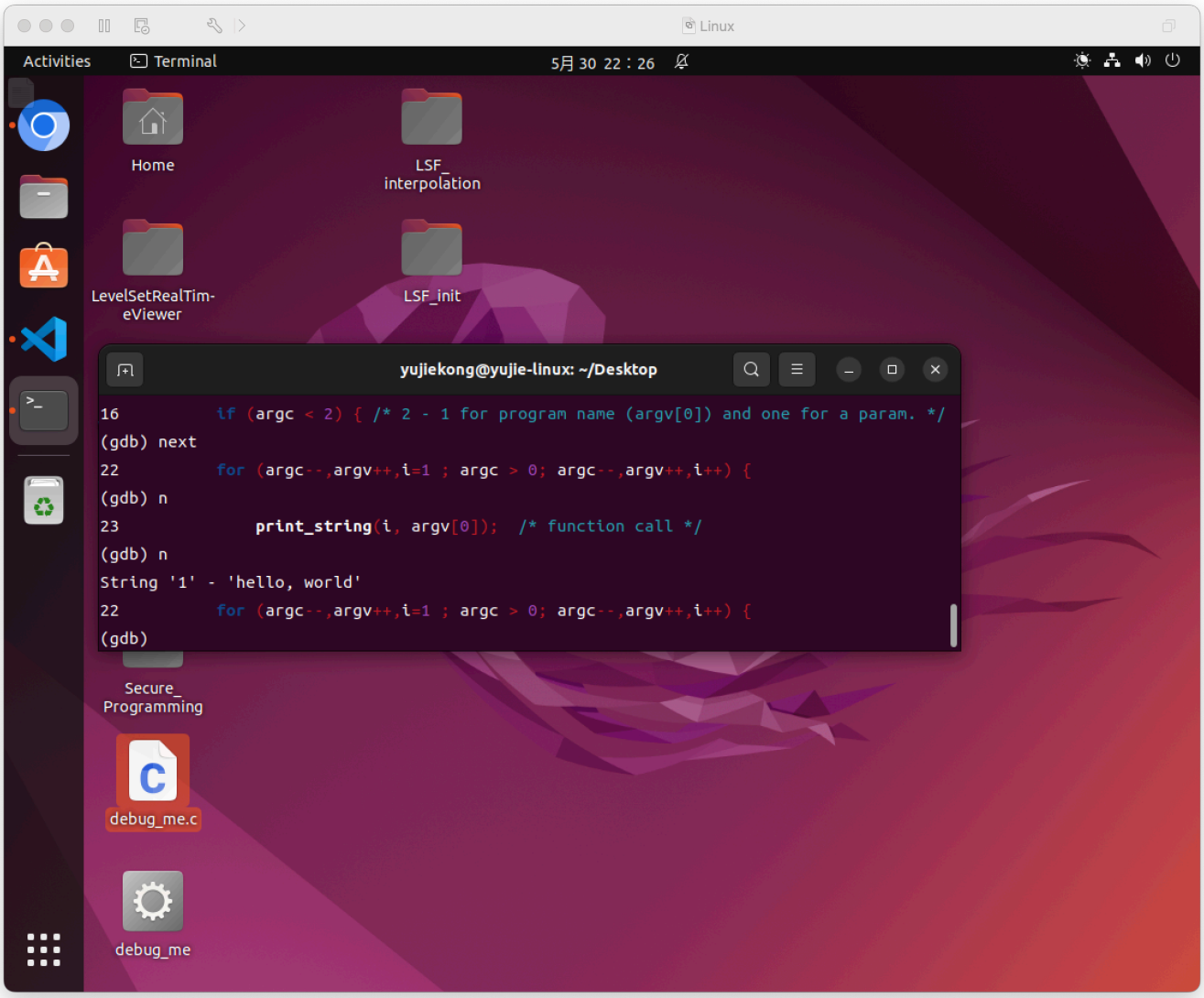
在main函数开头打断点。



Step a command at a time.

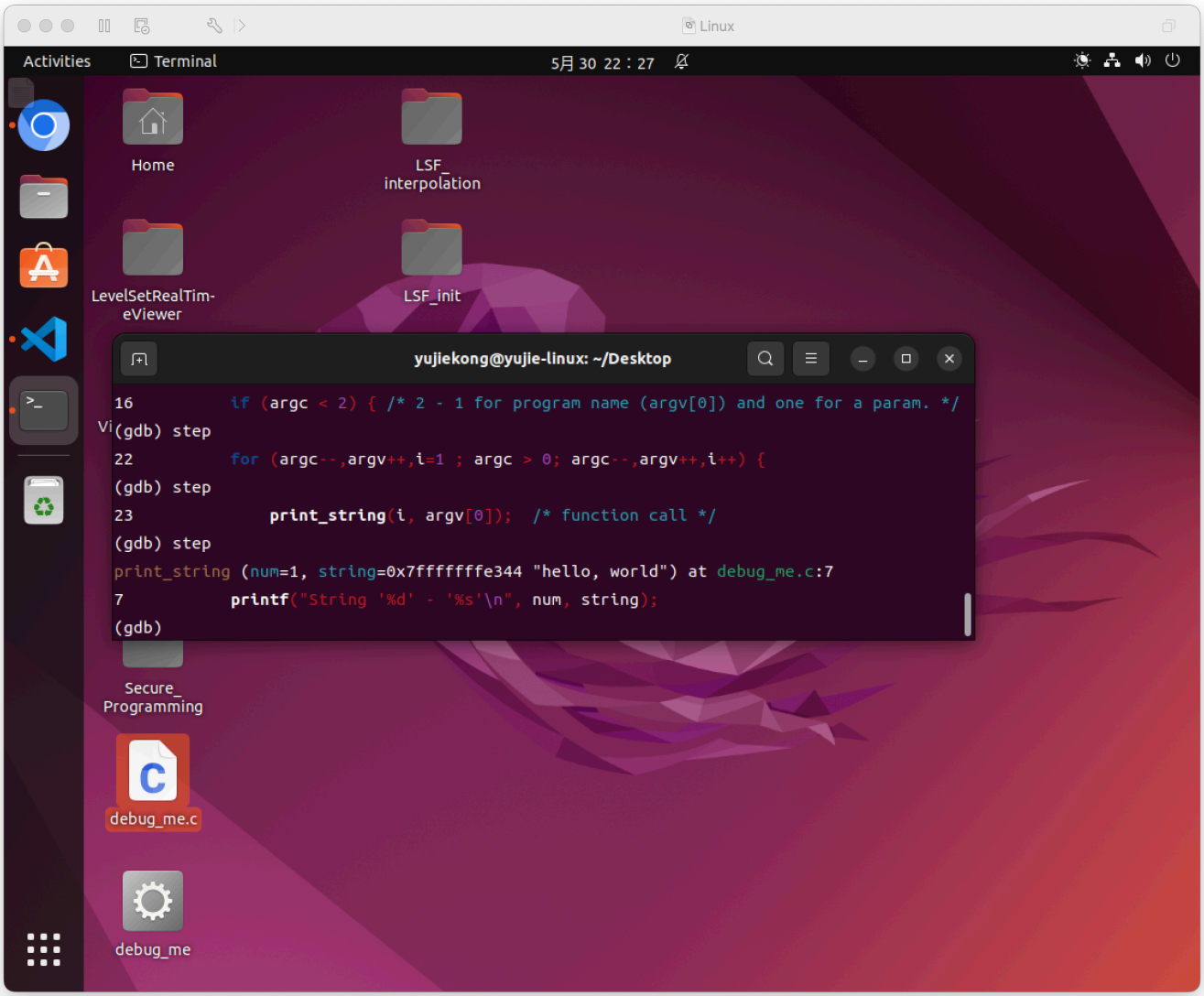
```
# 执行下一条指令，但如果该指令是一个函数调用，next 会将整个函数作为一个单元执行，而不进入函数内部。
(gdb) next
```

next只运行了print_string函数，没有进入函数内部。

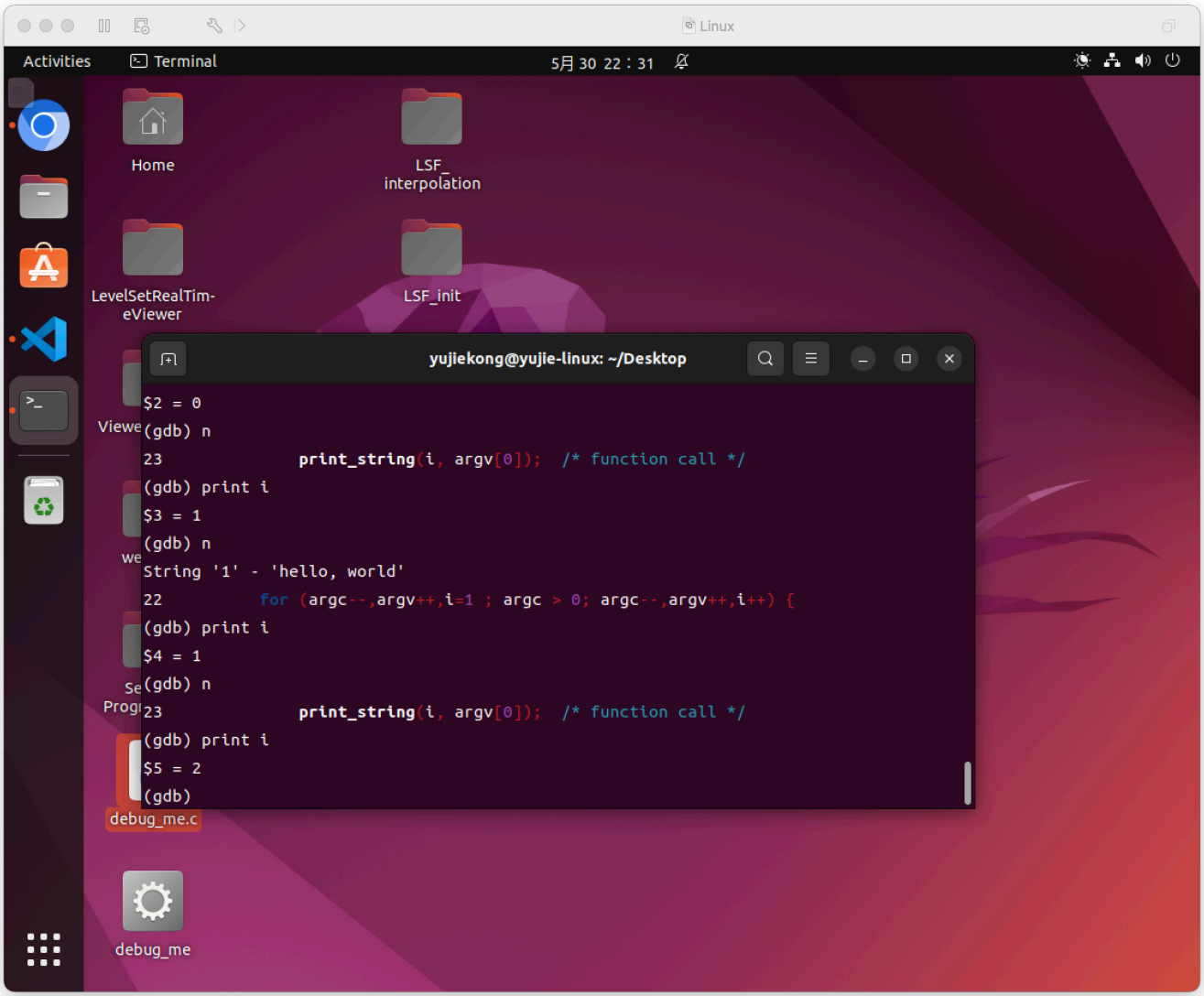



```
# 执行下一条指令，如果该指令是一个函数调用，step 会进入该函数并停在函数的第一条指令。
(gdb) step
```

step进入了print_string函数内部。



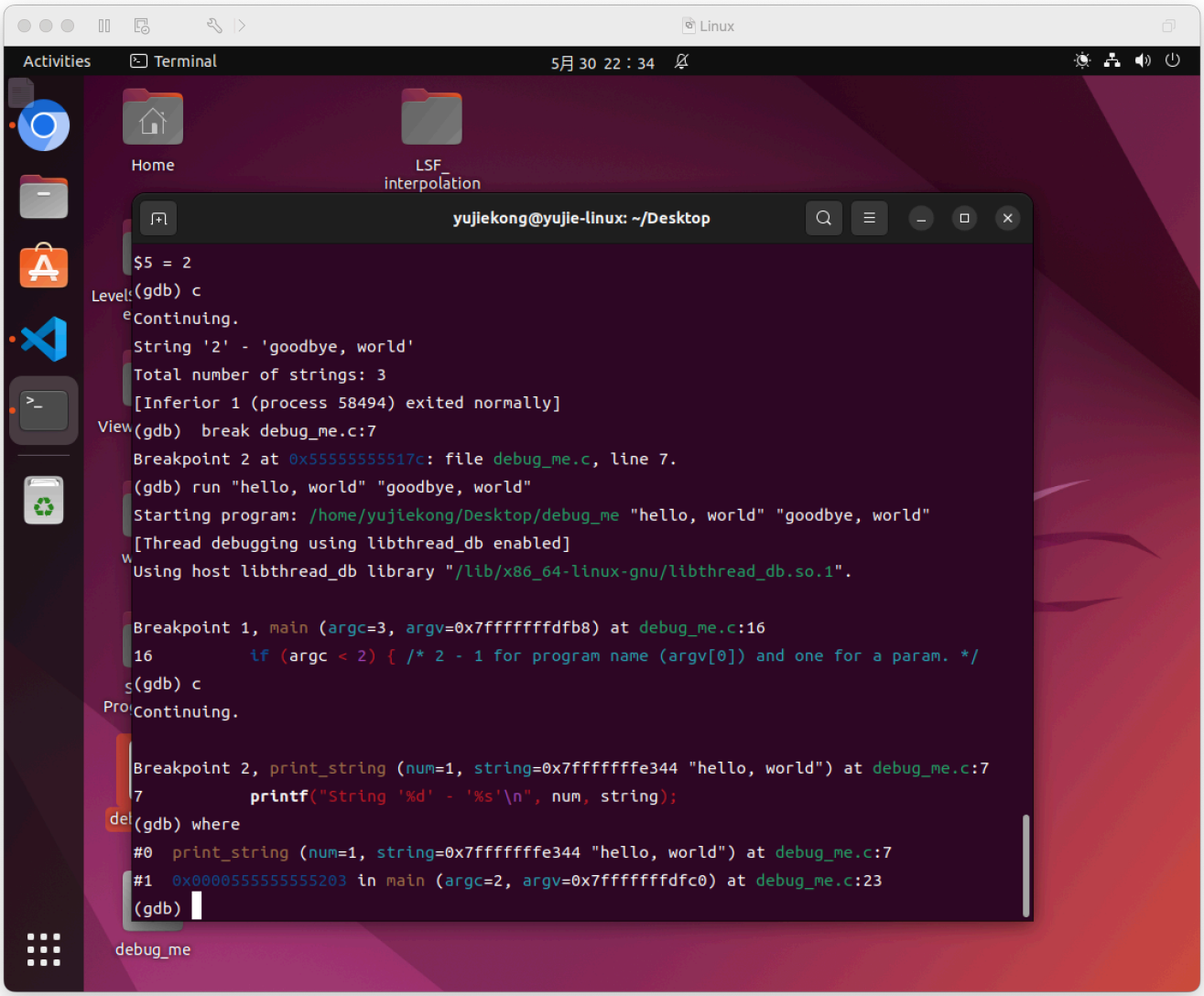
Print variables.



Examine the function call stack.

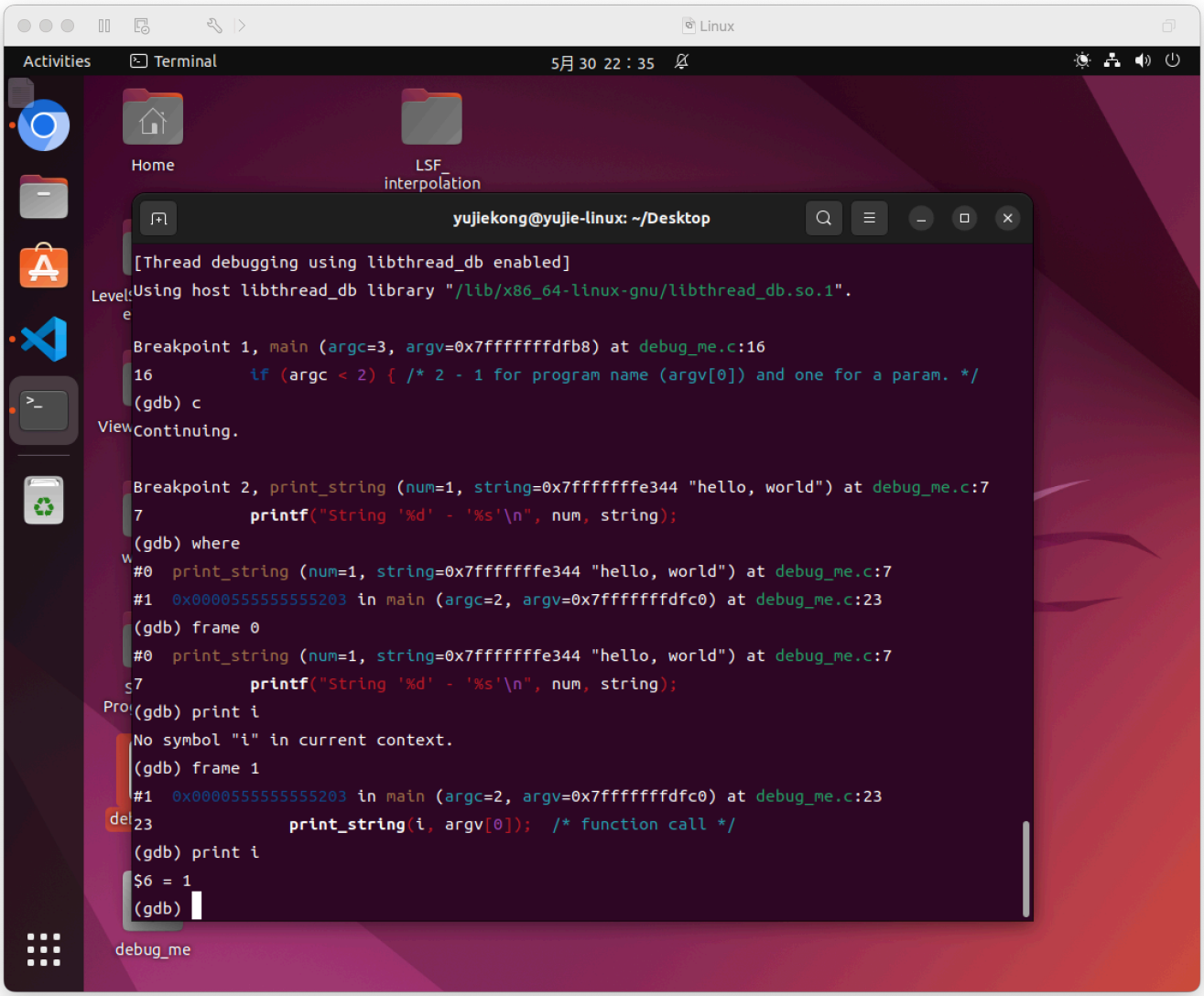
(1)Run the the program step by step to line 7. To examine the function call stack, type:

```
(gdb) where
```



(2)You will see currently executing function "print_string" and the function "main" which called it. Then type "frame 0" and "frame 1" to see the difference:

```
(gdb) frame 0
(gdb) print i
...
(gdb) frame 1
(gdb) print i
```



在frame 0中，实参i不存在，只有函数内部的形参num为1；在frame1中，实参i存在为1。