

任务要求

OOM 模式:

应用会试图打开 `/proc/sys/vm/overcommit_memory` 文件并读取其中的信息。这个文件包含了“内核如何处理内存溢出情况”的信息。它比较复杂且不必要，我们不用实现，读取时直接默认返回一个 `"0"` 即可（注意不是返回空，是一个 ASCII 字符 `0`）

修改代码

crates/linux_syscall_api/src/syscall_fs/imp/io.rs

```
pub fn syscall_openat(args: [usize; 6]) -> SyscallResult {
    let fd = args[0];
    let path = args[1] as *const u8;
    let flags = args[2];
    let _mode = args[3] as u8;
    let force_dir = OpenFlags::from(flags).is_dir();
    let path = solve_path(fd, Some(path), force_dir)?;
    if path.path() == "/proc/sys/vm/overcommit_memory" {
        return ok('0' as isize);
    }
}
```

测试

```
#include <stdio.h>
#include <stdlib.h>
#include <fcntl.h>
#include <unistd.h>
#include <errno.h>

int main() {
    int fd;
    const char *path = "/proc/sys/vm/overcommit_memory";
    int flags = O_RDONLY;
    // Use openat to open the file
    fd = openat(AT_FDCWD, path, flags);
    if (fd == -1) {
        perror("openat failed");
        return 1;
    }
    // Check if openat opened the correct file
    if (fd > 0) {
        printf("openat returned file descriptor: %d\n", fd);

        // Check if the file descriptor value is '0'
        if (fd == '0') {
            printf("openat returned correct value: %d\n", fd);
        } else {
            printf("openat returned incorrect value: %d\n", fd);
        }
    }
}
```

```

    }
    // Close the file descriptor after use
    close(fd);
} else {
    printf("openat returned incorrect value: %d\n", fd);
}
return 0;
}

```

```

7:      initialize program: ./oom_openat
7:
7:
7:      transferring control: ./oom_openat
7:
[ 11.506047 0:8 linux_syscall_api::syscall_fs::imp::io:391] p: /proc/sys/vm/overcommit_memory
[ 11.507259 0:8 linux_syscall_api::syscall_fs::imp::io:393] Opening file: /proc/sys/vm/overcommit_memory
7:
7:      calling fini: ./oom_openat [0]
7:
openat returned file descriptor: 48
openat returned correct value: 48
[ 11.512705 0:6 linux_syscall_api::syscall_fs::imp::io:391] p: /etc/passwd
[ 11.513865 0:6 linux_syscall_api::syscall_fs::imp::io:396] Unsupported path: /etc/passwd

```

经验证，识别到打开文件为/proc/sys/vm/overcommit_memory时，立即返回 '0' 的ASCII值