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Институт №8 “Компьютерные науки и прикладная математика”
Кафедра №806 “Вычислительная математика и программирование”

Лабораторная работа №8 по курсу
«Операционные системы»

Группа: М80-206Б-22

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Цель работы:

Приобретение практических навыков диагностики работы программного обеспечения. При выполнении лабораторных работ по курсу ОС необходимо продемонстрировать ключевые системные вызовы, которые в них используются и то, что их использование соответствует варианту ЛР. По итогам выполнения всех лабораторных работ отчет по данной ЛР должен содержать краткую сводку по исследованию написанных программ.

Общий метод и алгоритм решения

В Unix-подобных операционных системах, программа общается с системой с помощью системных вызовов. Наш мир не идеален, и даже под капотом нашей программы что-то может пойти не так, чтобы понять, что пошло не так, нужно видеть что происходило и для этого мы используем утилиту -strace, которая выводит историю работы системных вызовов.

Как и у любой утилиты, у неё есть флаги:

- i - выводить указатель на инструкцию во время выполнения системного вызова;
- k - выводить стек вызовов для отслеживаемого процесса после каждого системного вызова;
- o - выводить всю информацию о системных вызовах не в стандартный поток ошибок, а в файл;
- q - не выводить сообщения о подключении и отключении от процесса;
- qq - не выводить сообщения о завершении работы процесса;
- r - выводить временную метку для каждого системного вызова;
- s - указать максимальный размер выводимой строки, по умолчанию 32;
- t - выводить время суток для каждого вызова;
- tt - добавить микросекунды;
- ttt - добавить микросекунды и количество секунд после начала эпохи Unix;
- T - выводить длительность выполнения системного вызова;
- x - выводить все не ASCII-строки в шестнадцатеричном виде;
- xx - выводить все строки в шестнадцатеричном виде;
- y - выводить пути для файловых дескрипторов;
- yy - выводить информацию о протоколе для файловых дескрипторов;
- c - подсчитывать количество ошибок, вызовов и время выполнения для каждого системного вызова;
- O - добавить определённое количество микросекунд к счетчику времени для каждого вызова;

- S - сортировать информацию выводимую при опции -с. Доступны поля time, calls, name и nothing. По умолчанию используется time;
- w - суммировать время между началом и завершением системного вызова;
- e - позволяет отфильтровать только нужные системные вызовы или события;
- P - отслеживать только системные вызовы, которые касаются указанного пути;
- v - позволяет выводить дополнительную информацию, такую как версии окружения, статистику и так далее;
- b - если указанный системный вызов обнаружен, трассировка прекращается;
- f - отслеживать также дочерние процессы, если они будут созданы;
- ff - если задана опция -o, то для каждого дочернего процесса будет создан отдельный файл с именем имя_файла.pid.
- I - позволяет блокировать реакцию на нажатия Ctrl+C и Ctrl+Z;
- E - добавляет переменную окружения для запускаемой программы;
- p - указывает pid процесса, к которому следует подключиться;
- u - запустить программу, от имени указанного пользователя.

В своих лабораторных работах я в основном использовал только ключ -f. Но учитывая вывод strace без флагов в 5-7 лабе в виде 2,5 млн строчек, я решил сделать вывод более пригодным для работы с ним:

strace -f -e trace=!/brk,clock_nanosleep,mmap,mprotect,munmap -owrite-simple3.log ./manage_main

Код программы

Laba 1:

```
arsenii@PC-Larcha14:~/Documents/VS_code_prog/OSI/laba_1$ strace -f ./main
execve("./main", ["/main"], 0x7fff59b2b2e8 /* 56 vars */) = 0
brk(NULL)                               = 0x5578b7997000
arch_prctl(0x3001 /* ARCH_??? */, 0x7ffe7698bbd0) = -1 EINVAL (Invalid argument)
mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS,
-1, 0) = 0x7f9983f3b000
access("/etc/ld.so.preload", R_OK)      = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3
newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=80191, ...}, AT_EMPTY_PATH) = 0
mmap(NULL, 80191, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7f9983f27000
close(3)                                = 0
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libc.so.6", O_RDONLY|O_CLOEXEC) = 3
```

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read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\3\0>\0\1\0\0\0P\237\2\0\0\0\0"..., 832) = 832
pread64(3, "\6\0\0\0\4\0\0\0@\0\0\0\0\0\0\0@\0\0\0\0\0\0\0@\0\0\0\0\0\0\0"..., 784, 64) = 784
pread64(3, "\4\0\0\0 \0\0\0\5\0\0\0GNU\0\2\0\0\300\4\0\0\0\3\0\0\0\0\0\0"..., 48, 848) = 48
pread64(3, "\4\0\0\0\24\0\0\0\3\0\0\0GNU\0\\"\233}\305\t5?\344\337^)\350b\231\21\360"..., 68,
896) = 68
newfstatat(3, "", {st_mode=S_IFREG|0755, st_size=2216304, ...}, AT_EMPTY_PATH) = 0
pread64(3, "\6\0\0\0\4\0\0\0@\0\0\0\0\0\0\0@\0\0\0\0\0\0\0@\0\0\0\0\0\0\0"..., 784, 64) = 784
mmap(NULL, 2260560, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) =
0x7f9983c00000
mmap(0x7f9983c28000, 1658880, PROT_READ|PROT_EXEC,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x28000) = 0x7f9983c28000
mmap(0x7f9983dbd000, 360448, PROT_READ,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1bd000) = 0x7f9983dbd000
mmap(0x7f9983e15000, 24576, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x214000) = 0x7f9983e15000
mmap(0x7f9983e1b000, 52816, PROT_READ|PROT_WRITE
, MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7f9983e1b000
close(3) = 0
mmap(NULL, 12288, PROT_READ|PROT_WRITE
, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7f9983f24000
arch_prctl(ARCH_SET_FS, 0x7f9983f24740) = 0
set_tid_address(0x7f9983f24a10) = 13034
set_robust_list(0x7f9983f24a20, 24) = 0
rseq(0x7f9983f250e0, 0x20, 0, 0x53053053) = 0
mprotect(0x7f9983e15000, 16384, PROT_READ) = 0
mprotect(0x5578b6075000, 4096, PROT_READ) = 0
mprotect(0x7f9983f75000, 8192, PROT_READ) = 0
prlimit64(0, RLIMIT_STACK, NULL, {rlim_cur=8192*1024,
rlim_max=RLIM64_INFINITY}) = 0
munmap(0x7f9983f27000, 80191) = 0
write(1, "Enter filename with file extensi"..., 37Enter filename with file extension: ) = 37
read(0, O.txt
"O.txt\n", 100) = 6
openat(AT_FDCWD, "O.txt", O_WRONLY|O_CREAT, 0777) = 3
pipe2([4, 5], 0) = 0
pipe2([6, 7], 0) = 0
clone(child_stack=NULL,
flags=CLONE_CHILD_CLEARTID|CLONE_CHILD_SETTID|SIGCHLDstrace: Process
13037 attached
, child_tidptr=0x7f9983f24a10) = 13037
[pid 13034] close(3 <unfinished ...>
[pid 13037] set_robust_list(0x7f9983f24a20, 24 <unfinished ...>
[pid 13034] <... close resumed> = 0
[pid 13037] <... set_robust_list resumed> = 0
[pid 13034] close(4) = 0
[pid 13037] close(5 <unfinished ...>

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[pid 13034] close(7) = 0
[pid 13034] write(5, "O.txt", 5 <unfinished ...>
[pid 13037] <... close resumed> = 0
[pid 13034] <... write resumed> = 5
[pid 13034] wait4(-1, <unfinished ...>
[pid 13037] close(6) = 0
[pid 13037] dup2(4, 0) = 0
[pid 13037] dup2(3, 1) = 1
[pid 13037] dup2(7, 2) = 2
[pid 13037] execve("./child", ["./child"], 0x7ffe7698bda8 /* 56 vars */) = 0
[pid 13037] brk(NULL) = 0x563157d7c000
[pid 13037] arch_prctl(0x3001 /* ARCH_??? */, 0x7ffe04d4f340) = -1 EINVAL (Invalid
argument)
[pid 13037] mmap(NULL, 8192, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7fe7e6001000
[pid 13037] access("/etc/ld.so.preload", R_OK) = -1 ENOENT (No such file or directory)
[pid 13037] openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 5
[pid 13037] newfstatat(5, "", {st_mode=S_IFREG|0644, st_size=80191, ...},
AT_EMPTY_PATH) = 0
[pid 13037] mmap(NULL, 80191, PROT_READ, MAP_PRIVATE, 5, 0) = 0x7fe7e5fed000
[pid 13037] close(5) = 0
[pid 13037] openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libc.so.6",
O_RDONLY|O_CLOEXEC) = 5
[pid 13037] read(5, "\177ELF\2\1\1\3\0\0\0\0\0\0\3\0>\0\1\0\0\0P\237\2\0\0\0\0"..., 832) =
832
[pid 13037] pread64(5, "\6\0\0\0\4\0\0\0@\0\0\0\0\0\0@\0\0\0\0\0\0@\0\0\0\0\0\0"..., 784,
64) = 784
[pid 13037] pread64(5, "\4\0\0\0\0\0\0\5\0\0\0GNU\0\2\0\0\300\4\0\0\0\3\0\0\0\0\0\0"..., 48,
848) = 48
[pid 13037] pread64(5,
"\4\0\0\0\24\0\0\0\3\0\0\0GNU\0\0"233}\305\t\5?\344\337^)\350b\231\21\360"..., 68, 896) = 68
[pid 13037] newfstatat(5, "", {st_mode=S_IFREG|0755, st_size=2216304, ...},
AT_EMPTY_PATH) = 0
[pid 13037] pread64(5, "\6\0\0\0\4\0\0\0@\0\0\0\0\0\0@\0\0\0\0\0\0@\0\0\0\0\0\0"..., 784,
64) = 784
[pid 13037] mmap(NULL, 2260560, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 5,
0) = 0x7fe7e5c00000
[pid 13037] mmap(0x7fe7e5c28000, 1658880, PROT_READ|PROT_EXEC,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 5, 0x28000) = 0x7fe7e5c28000
[pid 13037] mmap(0x7fe7e5dbd000, 360448, PROT_READ
, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 5, 0x1bd000) = 0x7fe7e5dbd000
[pid 13037] mmap(0x7fe7e5e15000, 24576, PROT_READ|PROT_WRITE
, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 5, 0x214000) = 0x7fe7e5e15000
[pid 13037] mmap(0x7fe7e5e1b000, 52816, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7fe7e5e1b000
[pid 13037] close(5) = 0

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[pid 13037] mmap(NULL, 12288, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7fe7e5fea000
[pid 13037] arch_prctl(ARCH_SET_FS, 0x7fe7e5fea740) = 0
[pid 13037] set_tid_address(0x7fe7e5feaa10) = 13037
[pid 13037] set_robust_list(0x7fe7e5feaa20, 24) = 0
[pid 13037] rseq(0x7fe7e5feb0e0, 0x20, 0, 0x53053053) = 0
[pid 13037] mprotect(0x7fe7e5e15000, 16384, PROT_READ) = 0
[pid 13037] mprotect(0x563156ca0000, 4096, PROT_READ) = 0
[pid 13037] mprotect(0x7fe7e603b000, 8192, PROT_READ) = 0
[pid 13037] prlimit64(0, RLIMIT_STACK, NULL, {rlim_cur=8192*1024,
rlim_max=RLIM64_INFINITY}) = 0
[pid 13037] munmap(0x7fe7e5fed000, 80191) = 0
[pid 13037] read(0, "O.txt", 100) = 5
[pid 13037] write(1, "O.txt", 5) = 5
[pid 13037] exit_group(0) = ?
[pid 13037] +++ exited with 0 +++
<... wait4 resumed>NULL, 0, NULL) = 13037
--- SIGCHLD {si_signo=SIGCHLD, si_code=CLD_EXITED, si_pid=13037, si_uid=1000,
si_status=0, si_utime=0, si_stime=0} ---
read(6, "", 100) = 0
write(1, "\33[32m\0", 6) = 6
write(1, "Correct filename.", 17Correct filename.) = 17
write(1, "\33[0m\0", 5) = 5
write(1, "\33[32m\0", 6) = 6
write(1, "\n\0", 2
) = 2
write(1, "Program was ended successsfully!", 32Program was ended successsfully!) = 32
write(1, "\n\0", 2
) = 2
write(1, "\33[0m\0", 5) = 5
close(5) = 0
close(6) = 0
exit_group(0) = ?
+++ exited with 0 +++

```

Laba 2:

```

arsenii@PC-Larcha14:~/Desktop/Unikall/Git_project/OSI/laba_2$ strace -f ./lab_2 3
execve("./lab_2", ["/lab_2", "3"], 0x7ffd0ec883b0 /* 56 vars */) = 0
brk(NULL) = 0x560fec42c000
arch_prctl(0x3001 /* ARCH_??? */, 0x7ffd179ce3a0) = -1 EINVAL (Invalid argument)
mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1,
0) = 0x7fd0b5971000
access("/etc/ld.so.preload", R_OK) = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3
newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=80547, ...}, AT_EMPTY_PATH) = 0

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mmap(NULL, 80547, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7fd0b595d000
close(3) = 0
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libstdc++.so.6", O_RDONLY|O_CLOEXEC) = 3
read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0"..., 832) = 832
newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=2260296, ...}, AT_EMPTY_PATH) = 0
mmap(NULL, 2275520, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) =
0x7fd0b5600000
mprotect(0x7fd0b569a000, 1576960, PROT_NONE) = 0
mmap(0x7fd0b569a000, 1118208, PROT_READ|PROT_EXEC,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x9a000) = 0x7fd0b569a000
mmap(0x7fd0b57ab000, 454656, PROT_READ,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1ab000) = 0x7fd0b57ab000
mmap(0x7fd0b581b000, 57344, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x21a000) = 0x7fd0b581b000
mmap(0x7fd0b5829000, 10432, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7fd0b5829000
close(3) = 0
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libgcc_s.so.1", O_RDONLY|O_CLOEXEC) = 3
read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0"..., 832) = 832
newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=125488, ...}, AT_EMPTY_PATH) = 0
mmap(NULL, 127720, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) =
0x7fd0b593d000
mmap(0x7fd0b5940000, 94208, PROT_READ|PROT_EXEC,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x3000) = 0x7fd0b5940000
mmap(0x7fd0b5957000, 16384, PROT_READ,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1a000) = 0x7fd0b5957000
mmap(0x7fd0b595b000, 8192, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1d000) = 0x7fd0b595b000
close(3) = 0
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libc.so.6", O_RDONLY|O_CLOEXEC) = 3
read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\3\0>\0\1\0\0\0P\237\2\0\0\0\0"..., 832) = 832
pread64(3, "\6\0\0\0\4\0\0\0@\0\0\0\0\0\0\0@\0\0\0\0\0\0\0@\0\0\0\0\0\0\0"..., 784, 64) = 784
pread64(3, "\4\0\0\0\0\0\0\5\0\0\0GNU\0\2\0\0\300\4\0\0\0\3\0\0\0\0\0\0"..., 48, 848) = 48
pread64(3, "\4\0\0\0\24\0\0\0\3\0\0\0GNU\0\244;\374\204(\337f#\315\1214\234f\256\271\32"...,
68, 896) = 68
newfstatat(3, "", {st_mode=S_IFREG|0755, st_size=2216304, ...}, AT_EMPTY_PATH) = 0
pread64(3, "\6\0\0\0\4\0\0\0@\0\0\0\0\0\0\0@\0\0\0\0\0\0\0@\0\0\0\0\0\0\0"..., 784, 64) = 784
mmap(NULL, 2260560, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) =
0x7fd0b5200000
mmap(0x7fd0b5228000, 1658880, PROT_READ|PROT_EXEC,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x28000) = 0x7fd0b5228000
mmap(0x7fd0b53bd000, 360448, PROT_READ,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1bd000) = 0x7fd0b53bd000
mmap(0x7fd0b5415000, 24576, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x214000) = 0x7fd0b5415000
mmap(0x7fd0b541b000, 52816, PROT_READ|PROT_WRITE,

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MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7fd0b541b000
close(3) = 0
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libm.so.6", O_RDONLY|O_CLOEXEC) = 3
read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0"..., 832) = 832
newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=940560, ...}, AT_EMPTY_PATH) = 0
mmap(NULL, 942344, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) =
0x7fd0b5856000
mmap(0x7fd0b5864000, 507904, PROT_READ|PROT_EXEC,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0xe000) = 0x7fd0b5864000
mmap(0x7fd0b58e0000, 372736, PROT_READ,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x8a000) = 0x7fd0b58e0000
mmap(0x7fd0b593b000, 8192, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0xe4000) = 0x7fd0b593b000
close(3) = 0
mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1,
0) = 0x7fd0b5854000
mmap(NULL, 12288, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1,
0) = 0x7fd0b5851000
arch_prctl(ARCH_SET_FS, 0x7fd0b5851740) = 0
set_tid_address(0x7fd0b5851a10) = 9534
set_robust_list(0x7fd0b5851a20, 24) = 0
rseq(0x7fd0b58520e0, 0x20, 0, 0x53053053) = 0
mprotect(0x7fd0b5415000, 16384, PROT_READ) = 0
mprotect(0x7fd0b593b000, 4096, PROT_READ) = 0
mprotect(0x7fd0b595b000, 4096, PROT_READ) = 0
mprotect(0x7fd0b581b000, 45056, PROT_READ) = 0
mprotect(0x560feac72000, 4096, PROT_READ) = 0
mprotect(0x7fd0b59ab000, 8192, PROT_READ) = 0
prlimit64(0, RLIMIT_STACK, NULL, {rlim_cur=8192*1024, rlim_max=RLIM64_INFINITY}) =
0
munmap(0x7fd0b595d000, 80547) = 0
getrandom("\x18\xe8\x31\x17\x4c\xd8\x2a\x92", 8, GRND_NONBLOCK) = 8
brk(NULL) = 0x560fec42c000
brk(0x560fec44d000) = 0x560fec44d000
futext(0x7fd0b582977c, FUTEX_WAKE_PRIVATE, 2147483647) = 0
newfstatat(1, "", {st_mode=S_IFCHR|0620, st_rdev=makedev(0x88, 0), ...}, AT_EMPTY_PATH)
= 0
write(1, "Input matrix size\n", 18Input matrix size
) = 18
write(1, "n=", 2n=) = 2
newfstatat(0, "", {st_mode=S_IFCHR|0620, st_rdev=makedev(0x88, 0), ...}, AT_EMPTY_PATH)
= 0
read(0, 5
"5\n", 1024) = 2
write(1, "\n", 1
) = 1
write(1, "m=", 2m=) = 2

```



```

read(0, 7
"7\n", 1024)          = 2
write(1, "\n", 1
)                      = 1
write(1, "Input count of filter overlay=", 30Input count of filter overlay=) = 30
read(0, 3
"3\n", 1024)          = 2
write(1, "\nInput filter matrix size k*k (i"... , 65
Input filter matrix size k*k (it should be odd number, and k>1)
) = 65
write(1, "k=", 2k=)          = 2
read(0, 3
"3\n", 1024)          = 2
write(1, "Begin mass:\n", 12Begin mass:
) = 12
write(1, "Full mass:\n", 11Full mass:
) = 11
write(1, " 0 0 0 0 0 0 0 0 0 "... , 37 0 0 0 0 0 0 0 0 0
) = 37
write(1, " 0 214 125 166 199 228 69 107 "... , 37 0 214 125 166 199 228 69 107 0
) = 37
write(1, " 0 223 43 39 27 204 160 21 "... , 37 0 223 43 39 27 204 160 21 0
) = 37
write(1, " 0 24 154 32 8 251 219 66 "... , 37 0 24 154 32 8 251 219 66 0
) = 37
write(1, " 0 76 181 153 37 192 233 56 "... , 37 0 76 181 153 37 192 233 56 0
) = 37
write(1, " 0 155 181 103 43 215 13 12 "... , 37 0 155 181 103 43 215 13 12 0
) = 37
write(1, " 0 0 0 0 0 0 0 0 0 "... , 37 0 0 0 0 0 0 0 0 0
) = 37
write(1, "\n", 1
)                      = 1
write(1, "Correct mass:\n", 14Correct mass:
) = 14
write(1, "214 125 166 199 228 69 107 \n", 29214 125 166 199 228 69 107
) = 29
write(1, "223 43 39 27 204 160 21 \n", 29223 43 39 27 204 160 21
) = 29
write(1, " 24 154 32 8 251 219 66 \n", 29 24 154 32 8 251 219 66
) = 29
write(1, " 76 181 153 37 192 233 56 \n", 29 76 181 153 37 192 233 56
) = 29
write(1, "155 181 103 43 215 13 12 \n", 29155 181 103 43 215 13 12
) = 29
rt_sigaction(SIGRT_1, {sa_handler=0x7fd0b5291870, sa_mask=[],

```

```

sa_flags=SA_RESTORER|SA_ONSTACK|SA_RESTART|SA_SIGINFO,
sa_restorer=0x7fd0b5242520}, NULL, 8) = 0
rt_sigprocmask(SIG_UNBLOCK, [RTMIN RT_1], NULL, 8) = 0
mmap(NULL, 8392704, PROT_NONE, MAP_PRIVATE|MAP_ANONYMOUS|MAP_STACK,
-1, 0) = 0x7fd0b49ff000
mprotect(0x7fd0b4a00000, 8388608, PROT_READ|PROT_WRITE) = 0
rt_sigprocmask(SIG_BLOCK, ~[], [], 8) = 0
clone3({flags=CLONE_VM|CLONE_FS|CLONE_FILES|CLONE_SIGHAND|CLONE_THRE
AD|CLONE_SYSVSEM|CLONE_SETTLS|CLONE_PARENT_SETTID|CLONE_CHILD_CLE
ARTID,
child_tid=0x7fd0b51ff910, parent_tid=0x7fd0b51ff910, exit_signal=0, stack=0x7fd0b49ff000,
stack_size=0x7fff00, tls=0x7fd0b51ff640} => {parent_tid=[9543]}, 88) = 9543
strace: Process 9543 attached
[pid 9534] rt_sigprocmask(SIG_SETMASK, [], NULL, 8) = 0
[pid 9543] rseq(0x7fd0b51ffe0, 0x20, 0, 0x53053053 <unfinished ...>
[pid 9534] mmap(NULL, 8392704, PROT_NONE,
MAP_PRIVATE|MAP_ANONYMOUS|MAP_STACK, -1, 0 <unfinished ...>
[pid 9543] <... rseq resumed>) = 0
[pid 9534] <... mmap resumed>) = 0x7fd0b41fe000
[pid 9543] set_robust_list(0x7fd0b51ff920, 24 <unfinished ...>
[pid 9534] mprotect(0x7fd0b41ff000, 8388608, PROT_READ|PROT_WRITE <unfinished ...>
[pid 9543] <... set_robust_list resumed>) = 0
[pid 9534] <... mprotect resumed>) = 0
[pid 9543] rt_sigprocmask(SIG_SETMASK, [], <unfinished ...>
[pid 9534] rt_sigprocmask(SIG_BLOCK, ~[], <unfinished ...>
[pid 9543] <... rt_sigprocmask resumed>NULL, 8) = 0
[pid 9534] <... rt_sigprocmask resumed>[], 8) = 0
[pid 9534]

```

```

clone3({flags=CLONE_VM|CLONE_FS|CLONE_FILES|CLONE_SIGHAND|CLONE_THREAD|CL
ONE_SYSVSEM|CLONE_SETTLS|CLONE_PARENT_SETTID|CLONE_CHILD_CLEARTID,
child_tid=0x7fd0b49fe910, parent_tid=0x7fd0b49fe910, exit_signal=0, stack=0x7fd0b41fe000,
stack_size=0x7fff00, tls=0x7fd0b49fe640} <unfinished ...>
[pid 9543] mmap(NULL, 134217728, PROT_NONE,
MAP_PRIVATE|MAP_ANONYMOUS|MAP_NORESERVE, -1, 0strace: Process 9544 attached
) = 0x7fd0ac1fe000
[pid 9534] <... clone3 resumed> => {parent_tid=[9544]}, 88) = 9544
[pid 9544] rseq(0x7fd0b49fefe0, 0x20, 0, 0x53053053 <unfinished ...>
[pid 9543] munmap(0x7fd0ac1fe000, 65019904 <unfinished ...>
[pid 9534] rt_sigprocmask(SIG_SETMASK, [], <unfinished ...>
[pid 9544] <... rseq resumed>) = 0
[pid 9534] <... rt_sigprocmask resumed>NULL, 8) = 0
[pid 9543] <... munmap resumed>) = 0
[pid 9534] mmap(NULL, 8392704, PROT_NONE,
MAP_PRIVATE|MAP_ANONYMOUS|MAP_STACK, -1, 0 <unfinished ...>
[pid 9544] set_robust_list(0x7fd0b49fe920, 24 <unfinished ...>

```

```

[pid 9534] <... mmap resumed>)      = 0x7fd0af7ff000
[pid 9543] munmap(0x7fd0b4000000, 2088960 <unfinished ...>
[pid 9534] mprotect(0x7fd0af800000, 8388608, PROT_READ|PROT_WRITE) = 0
[pid 9544] <... set_robust_list resumed>) = 0
[pid 9543] <... munmap resumed>)      = 0
[pid 9534] rt_sigprocmask(SIG_BLOCK, ~[], <unfinished ...>
[pid 9543] mprotect(0x7fd0b0000000, 135168, PROT_READ|PROT_WRITE <unfinished ...>
[pid 9534] <... rt_sigprocmask resumed>[], 8) = 0
[pid 9544] rt_sigprocmask(SIG_SETMASK, [], <unfinished ...>
[pid 9543] <... mprotect resumed>)     = 0
[pid 9534]

```

```

clone3({flags=CLONE_VM|CLONE_FS|CLONE_FILES|CLONE_SIGHAND|CLONE_THREAD|CLONE_SYSVSEM|CLONE_SETTLS|CLONE_PARENT_SETTID|CLONE_CHILD_CLEARTID, child_tid=0x7fd0affff910, parent_tid=0x7fd0affff910, exit_signal=0, stack=0x7fd0af7ff000, stack_size=0x7fff00, tls=0x7fd0affff640}; strace: Process 9545 attached <unfinished ...>

```

```

[pid 9544] <... rt_sigprocmask resumed>NULL, 8) = 0
[pid 9534] <... clone3 resumed>=> {parent_tid=[9545]}, 88) = 9545
[pid 9545] rseq(0x7fd0affffe0, 0x20, 0, 0x53053053 <unfinished ...>
[pid 9543] rt_sigprocmask(SIG_BLOCK, ~[RT_1], <unfinished ...>
[pid 9534] rt_sigprocmask(SIG_SETMASK, [], <unfinished ...>
[pid 9545] <... rseq resumed>)         = 0
[pid 9534] <... rt_sigprocmask resumed>NULL, 8) = 0
[pid 9543] <... rt_sigprocmask resumed>NULL, 8) = 0
[pid 9534] futex(0x7fd0b51ff910, FUTEX_WAIT_BITSET|FUTEX_CLOCK_REALTIME, 9543, NULL, FUTEX_BITSET_MATCH_ANY <unfinished ...>
[pid 9545] set_robust_list(0x7fd0affff920, 24 <unfinished ...>
[pid 9544] rt_sigprocmask(SIG_BLOCK, ~[RT_1], <unfinished ...>
[pid 9545] <... set_robust_list resumed>) = 0
[pid 9543] madvise(0x7fd0b49ff000, 8368128, MADV_DONTNEED <unfinished ...>
[pid 9545] rt_sigprocmask(SIG_SETMASK, [], <unfinished ...>
[pid 9544] <... rt_sigprocmask resumed>NULL, 8) = 0
[pid 9545] <... rt_sigprocmask resumed>NULL, 8) = 0
[pid 9543] <... madvise resumed>)      = 0
[pid 9544] madvise(0x7fd0b41fe000, 8368128, MADV_DONTNEED <unfinished ...>
[pid 9543] exit(0 <unfinished ...>
[pid 9544] <... madvise resumed>)      = 0
[pid 9543] <... exit resumed>)         = ?
[pid 9544] exit(0 <unfinished ...>
[pid 9545] rt_sigprocmask(SIG_BLOCK, ~[RT_1], <unfinished ...>
[pid 9534] <... futex resumed>)        = 0
[pid 9544] <... exit resumed>)         = ?
[pid 9543] +++ exited with 0 +++
[pid 9545] <... rt_sigprocmask resumed>NULL, 8) = 0
[pid 9534] futex(0x7fd0b49fe910, FUTEX_WAIT_BITSET|FUTEX_CLOCK_REALTIME, 9544,

```

```

NULL, FUTEX_BITSET_MATCH_ANY <unfinished ...>
[pid 9545] madvise(0x7fd0af7ff000, 8368128, MADV_DONTNEED <unfinished ...>
[pid 9544] +++ exited with 0 +++
[pid 9534] <... futex resumed>      = -1 EAGAIN (Resource temporarily unavailable)
[pid 9545] <... madvise resumed>    = 0
[pid 9534] futex(0x7fd0affff910, FUTEX_WAIT_BITSET|FUTEX_CLOCK_REALTIME, 9545,
NULL, FUTEX_BITSET_MATCH_ANY <unfinished ...>
[pid 9545] exit(0)                  = ?
[pid 9534] <... futex resumed>      = 0
[pid 9545] +++ exited with 0 +++
rt_sigprocmask(SIG_BLOCK, ~[], [], 8) = 0
clone3({flags=CLONE_VM|CLONE_FS|CLONE_FILES|CLONE_SIGHAND|CLONE_THREAD|CLONE_
AD|CLONE_SYSVSEM|CLONE_SETTLS|CLONE_PARENT_SETTID|CLONE_CHILD_CLE
ARTID, child_tid=0x7fd0affff910, parent_tid=0x7fd0affff910, exit_signal=0,
stack=0x7fd0af7ff000, stack_size=0x7fff00, tls=0x7fd0affff640}strace: Process 9546 attached
=> {parent_tid=[9546]}, 88) = 9546
[pid 9546] rseq(0x7fd0affffe0, 0x20, 0, 0x53053053 <unfinished ...>
[pid 9534] rt_sigprocmask(SIG_SETMASK, [], <unfinished ...>
[pid 9546] <... rseq resumed>      = 0
[pid 9534] <... rt_sigprocmask resumed>NULL, 8) = 0
[pid 9546] set_robust_list(0x7fd0affff920, 24 <unfinished ...>
[pid 9534] rt_sigprocmask(SIG_BLOCK, ~[], <unfinished ...>
[pid 9546] <... set_robust_list resumed>) = 0
[pid 9534] <... rt_sigprocmask resumed>[], 8) = 0
[pid 9546] rt_sigprocmask(SIG_SETMASK, [], <unfinished ...>
[pid 9534]

```

```

clone3({flags=CLONE_VM|CLONE_FS|CLONE_FILES|CLONE_SIGHAND|CLONE_THREAD|CL
ONE_SYSVSEM|CLONE_SETTLS|CLONE_PARENT_SETTID|CLONE_CHILD_CLEARTID,
child_tid=0x7fd0b49fe910, parent_tid=0x7fd0b49fe910, exit_signal=0, stack=0x7fd0b41fe000,
stack_size=0x7fff00, tls=0x7fd0b49fe640} <unfinished ...>

```

```

[pid 9546] <... rt_sigprocmask resumed>NULL, 8) = 0
strace: Process 9547 attached
[pid 9534] <... clone3 resumed> => {parent_tid=[9547]}, 88) = 9547
[pid 9547] rseq(0x7fd0b49fe0, 0x20, 0, 0x53053053 <unfinished ...>
[pid 9534] rt_sigprocmask(SIG_SETMASK, [], <unfinished ...>
[pid 9546] rt_sigprocmask(SIG_BLOCK, ~[RT_1], <unfinished ...>
[pid 9534] <... rt_sigprocmask resumed>NULL, 8) = 0
[pid 9547] <... rseq resumed>      = 0
[pid 9534] rt_sigprocmask(SIG_BLOCK, ~[], <unfinished ...>
[pid 9546] <... rt_sigprocmask resumed>NULL, 8) = 0
[pid 9534] <... rt_sigprocmask resumed>[], 8) = 0
[pid 9547] set_robust_list(0x7fd0b49fe920, 24 <unfinished ...>
[pid 9534]

```

```

clone3({flags=CLONE_VM|CLONE_FS|CLONE_FILES|CLONE_SIGHAND|CLONE_THREAD|CL
ONE_SYSVSEM|CLONE_SETTLS|CLONE_PARENT_SETTID|CLONE_CHILD_CLEARTID,

```

```

child_tid=0x7fd0b51ff910, parent_tid=0x7fd0b51ff910, exit_signal=0, stack=0x7fd0b49ff000,
stack_size=0x7fff00, tls=0x7fd0b51ff640} <unfinished ...>
[pid 9546] madvise(0x7fd0af7ff000, 8368128, MADV_DONTNEED <unfinished ...>
[pid 9547] <... set_robust_list resumed>) = 0
strace: Process 9548 attached
[pid 9546] <... madvise resumed>) = 0
[pid 9547] rt_sigprocmask(SIG_SETMASK, [], <unfinished ...>
[pid 9534] <... clone3 resumed> => {parent_tid=[9548]}, 88) = 9548
[pid 9548] rseq(0x7fd0b51ffe0, 0x20, 0, 0x53053053 <unfinished ...>
[pid 9546] exit(0 <unfinished ...>
[pid 9534] rt_sigprocmask(SIG_SETMASK, [], <unfinished ...>
[pid 9548] <... rseq resumed>) = 0
[pid 9547] <... rt_sigprocmask resumed>NULL, 8) = 0
[pid 9534] <... rt_sigprocmask resumed>NULL, 8) = 0
[pid 9548] set_robust_list(0x7fd0b51ff920, 24 <unfinished ...>
[pid 9546] <... exit resumed>) = ?
[pid 9534] futex(0x7fd0affff910, FUTEX_WAIT_BITSET|FUTEX_CLOCK_REALTIME, 9546,
NULL, FUTEX_BITSET_MATCH_ANY <unfinished ...>
[pid 9548] <... set_robust_list resumed>) = 0
[pid 9534] <... futex resumed>) = -1 EAGAIN (Resource temporarily unavailable)
[pid 9546] +++ exited with 0 +++
[pid 9534] futex(0x7fd0b49fe910, FUTEX_WAIT_BITSET|FUTEX_CLOCK_REALTIME, 9547,
NULL, FUTEX_BITSET_MATCH_ANY <unfinished ...>
[pid 9548] rt_sigprocmask(SIG_SETMASK, [], <unfinished ...>
[pid 9547] rt_sigprocmask(SIG_BLOCK, ~[RT_1], <unfinished ...>
[pid 9548] <... rt_sigprocmask resumed>NULL, 8) = 0
[pid 9547] <... rt_sigprocmask resumed>NULL, 8) = 0
[pid 9547] madvise(0x7fd0b41fe000, 8368128, MADV_DONTNEED) = 0
[pid 9548] rt_sigprocmask(SIG_BLOCK, ~[RT_1], <unfinished ...>
[pid 9547] exit(0 <unfinished ...>
[pid 9548] <... rt_sigprocmask resumed>NULL, 8) = 0
[pid 9547] <... exit resumed>) = ?
[pid 9548] madvise(0x7fd0b49ff000, 8368128, MADV_DONTNEED <unfinished ...>
[pid 9534] <... futex resumed>) = 0
[pid 9548] <... madvise resumed>) = 0
[pid 9547] +++ exited with 0 +++
[pid 9534] futex(0x7fd0b51ff910, FUTEX_WAIT_BITSET|FUTEX_CLOCK_REALTIME, 9548,
NULL, FUTEX_BITSET_MATCH_ANY <unfinished ...>
[pid 9548] exit(0) = ?
[pid 9534] <... futex resumed>) = 0
[pid 9548] +++ exited with 0 +++
rt_sigprocmask(SIG_BLOCK, ~[], [], 8) = 0
clone3({flags=CLONE_VM|CLONE_FS|CLONE_FILES|CLONE_SIGHAND|CLONE_THRE
AD|CLONE_SYSVSEM|CLONE_SETTLS|CLONE_PARENT_SETTID|CLONE_CHILD_CLE
ARTID, child_tid=0x7fd0b51ff910, parent_tid=0x7fd0b51ff910, exit_signal=0,
stack=0x7fd0b49ff000, stack_size=0x7fff00, tls=0x7fd0b51ff640} strace: Process 9549 attached

```

```
=> {parent_tid=[9549]}, 88) = 9549
[pid 9549] rseq(0x7fd0b51ffe0, 0x20, 0, 0x53053053 <unfinished ...>
[pid 9534] rt_sigprocmask(SIG_SETMASK, [], <unfinished ...>
[pid 9549] <... rseq resumed>)      = 0
[pid 9534] <... rt_sigprocmask resumed>NULL, 8) = 0
[pid 9549] set_robust_list(0x7fd0b51ff920, 24 <unfinished ...>
[pid 9534] rt_sigprocmask(SIG_BLOCK, ~[], <unfinished ...>
[pid 9549] <... set_robust_list resumed>) = 0
[pid 9534] <... rt_sigprocmask resumed>[], 8) = 0
[pid 9549] rt_sigprocmask(SIG_SETMASK, [], <unfinished ...>
[pid 9534]
```

```
clone3({flags=CLONE_VM|CLONE_FS|CLONE_FILES|CLONE_SIGHAND|CLONE_THREAD|CLONE_SYSVSEM|CLONE_SETTLS|CLONE_PARENT_SETTID|CLONE_CHILD_CLEARTID, child_tid=0x7fd0b49fe910, parent_tid=0x7fd0b49fe910, exit_signal=0, stack=0x7fd0b41fe000, stack_size=0x7fff00, tls=0x7fd0b49fe640} <unfinished ...>
```

```
[pid 9549] <... rt_sigprocmask resumed>NULL, 8) = 0
strace: Process 9550 attached
[pid 9534] <... clone3 resumed>=> {parent_tid=[9550]}, 88) = 9550
[pid 9549] rt_sigprocmask(SIG_BLOCK, ~[RT_1], <unfinished ...>
[pid 9534] rt_sigprocmask(SIG_SETMASK, [], <unfinished ...>
[pid 9549] <... rt_sigprocmask resumed>NULL, 8) = 0
[pid 9534] <... rt_sigprocmask resumed>NULL, 8) = 0
[pid 9550] rseq(0x7fd0b49fefe0, 0x20, 0, 0x53053053 <unfinished ...>
[pid 9534] rt_sigprocmask(SIG_BLOCK, ~[], <unfinished ...>
[pid 9549] madvise(0x7fd0b49ff000, 8368128, MADV_DONTNEED <unfinished ...>
[pid 9534] <... rt_sigprocmask resumed>[], 8) = 0
[pid 9550] <... rseq resumed>)      = 0
[pid 9534]
```

```
clone3({flags=CLONE_VM|CLONE_FS|CLONE_FILES|CLONE_SIGHAND|CLONE_THREAD|CLONE_SYSVSEM|CLONE_SETTLS|CLONE_PARENT_SETTID|CLONE_CHILD_CLEARTID, child_tid=0x7fd0affff910, parent_tid=0x7fd0affff910, exit_signal=0, stack=0x7fd0af7ff000, stack_size=0x7fff00, tls=0x7fd0affff640} <unfinished ...>
```

```
[pid 9549] <... madvise resumed>)      = 0
[pid 9550] set_robust_list(0x7fd0b49fe920, 24 <unfinished ...>
[pid 9549] exit(0strace: Process 9551 attached
<unfinished ...>
[pid 9550] <... set_robust_list resumed>) = 0
[pid 9534] <... clone3 resumed>=> {parent_tid=[9551]}, 88) = 9551
[pid 9551] rseq(0x7fd0affffe0, 0x20, 0, 0x53053053 <unfinished ...>
[pid 9549] <... exit resumed>)      = ?
[pid 9534] rt_sigprocmask(SIG_SETMASK, [], <unfinished ...>
[pid 9551] <... rseq resumed>)      = 0
[pid 9550] rt_sigprocmask(SIG_SETMASK, [], <unfinished ...>
[pid 9534] <... rt_sigprocmask resumed>NULL, 8) = 0
[pid 9551] set_robust_list(0x7fd0affff920, 24 <unfinished ...>
```

```

[pid 9549] +++ exited with 0 +++
[pid 9550] <... rt_sigprocmask resumed>NULL, 8) = 0
[pid 9534] futex(0x7fd0b49fe910, FUTEX_WAIT_BITSET|FUTEX_CLOCK_REALTIME, 9550,
NULL, FUTEX_BITSET_MATCH_ANY <unfinished ...>
[pid 9551] <... set_robust_list resumed>) = 0
[pid 9551] rt_sigprocmask(SIG_SETMASK, [], NULL, 8) = 0
[pid 9550] rt_sigprocmask(SIG_BLOCK, ~[RT_1], NULL, 8) = 0
[pid 9550] madvise(0x7fd0b41fe000, 8368128, MADV_DONTNEED <unfinished ...>
[pid 9551] rt_sigprocmask(SIG_BLOCK, ~[RT_1], <unfinished ...>
[pid 9550] <... madvise resumed>) = 0
[pid 9551] <... rt_sigprocmask resumed>NULL, 8) = 0
[pid 9550] exit(0 <unfinished ...>
[pid 9551] madvise(0x7fd0af7ff000, 8368128, MADV_DONTNEED <unfinished ...>
[pid 9550] <... exit resumed>) = ?
[pid 9551] <... madvise resumed>) = 0
[pid 9534] <... futex resumed>) = 0
[pid 9550] +++ exited with 0 +++
[pid 9551] exit(0 <unfinished ...>
[pid 9534] futex(0x7fd0afff910, FUTEX_WAIT_BITSET|FUTEX_CLOCK_REALTIME, 9551,
NULL, FUTEX_BITSET_MATCH_ANY <unfinished ...>
[pid 9551] <... exit resumed>) = ?
[pid 9534] <... futex resumed>) = 0
[pid 9551] +++ exited with 0 +++
write(1, "\n", 1
) = 1
write(1, "output_mass: \n", 14output_mass:
) = 14
write(1, "Full mass:\n", 11Full mass:
) = 11
write(1, " 0 0 0 0 0 0 0 0 0 0"..., 37 0 0 0 0 0 0 0 0 0 0
) = 37
write(1, " 0 0 39 39 39 43 56 0"..., 37 0 0 39 39 39 43 56 0 0
) = 37
write(1, " 0 39 43 43 69 69 69 56"..., 37 0 39 43 43 69 69 69 56 0
) = 37
write(1, " 0 43 43 76 103 103 69 56"..., 37 0 43 43 76 103 103 69 56 0
) = 37
write(1, " 0 43 43 76 76 56 56 13"..., 37 0 43 43 76 76 56 56 13 0
) = 37
write(1, " 0 0 43 43 43 37 13 0"..., 37 0 0 43 43 43 37 13 0 0
) = 37
write(1, " 0 0 0 0 0 0 0 0 0 0"..., 37 0 0 0 0 0 0 0 0 0 0
) = 37
write(1, "\n", 1
) = 1
write(1, "Correct mass:\n", 14Correct mass:

```

```

) = 14
write(1, " 0 39 39 39 43 56 0\n", 29 0 39 39 39 43 56 0
) = 29
write(1, " 39 43 43 69 69 69 56\n", 29 39 43 43 69 69 69 56
) = 29
write(1, " 43 43 76 103 103 69 56\n", 29 43 43 76 103 103 69 56
) = 29
write(1, " 43 43 76 76 56 56 13\n", 29 43 43 76 76 56 56 13
) = 29
write(1, " 0 43 43 43 37 13 0\n", 29 0 43 43 43 37 13 0
) = 29
write(1, "\n", 1
) = 1
write(1, "Time: 0.00384272\n", 17Time: 0.00384272
) = 17
lseek(0, -1, SEEK_CUR) = -1 ESPIPE (Illegal seek)
exit_group(0) = ?
+++ exited with 0 +++

```

Laba 3:

```

arsenii@PC-Larcha14:~/Documents/VS_code_prog/OSI/laba_3$ strace -f ./main
execve("./main", ["/main"], 0x7ffd6778d858 /* 56 vars */) = 0
brk(NULL) = 0x561d39c65000
arch_prctl(0x3001 /* ARCH_??? */, 0x7ffc91fb1260) = -1 EINVAL (Invalid argument)
mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1,
0) = 0x7fdf5c4c6000
access("/etc/ld.so.preload", R_OK) = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3
newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=80547, ...}, AT_EMPTY_PATH) = 0
mmap(NULL, 80547, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7fdf5c4b2000
close(3) = 0
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libc.so.6", O_RDONLY|O_CLOEXEC) = 3
read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\3\0>\0\1\0\0\0P\237\2\0\0\0\0"..., 832) = 832
pread64(3, "\6\0\0\0\4\0\0\0@\0\0\0\0\0\0@\0\0\0\0\0\0@\0\0\0\0\0\0"..., 784, 64) = 784
pread64(3, "\4\0\0\0\0\0\0\5\0\0\0GNU\0\2\0\0\300\4\0\0\0\3\0\0\0\0\0\0"..., 48, 848) = 48
pread64(3, "\4\0\0\0\24\0\0\0\3\0\0\0GNU\0 =\340\256\3\265?\356\25x\261\27\313A#\350"..., 68,
896) = 68
newfstatat(3, "", {st_mode=S_IFREG|0755, st_size=2216304, ...}, AT_EMPTY_PATH) = 0
pread64(3, "\6\0\0\0\4\0\0\0@\0\0\0\0\0\0@\0\0\0\0\0\0@\0\0\0\0\0\0"..., 784, 64) = 784
mmap(NULL, 2260560, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) =
0x7fdf5c200000
mmap(0x7fdf5c228000, 1658880, PROT_READ|PROT_EXEC,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x28000) = 0x7fdf5c228000
mmap(0x7fdf5c3bd000, 360448, PROT_READ,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1bd000) = 0x7fdf5c3bd000
mmap(0x7fdf5c415000, 24576, PROT_READ|PROT_WRITE,

```



```

MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x214000) = 0x7fdf5c415000
mmap(0x7fdf5c41b000, 52816, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7fdf5c41b000
close(3) = 0
mmap(NULL, 12288, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1,
0) = 0x7fdf5c4af000
arch_prctl(ARCH_SET_FS, 0x7fdf5c4af740) = 0
set_tid_address(0x7fdf5c4afa10) = 30563
set_robust_list(0x7fdf5c4afa20, 24) = 0
rseq(0x7fdf5c4b00e0, 0x20, 0, 0x53053053) = 0
mprotect(0x7fdf5c415000, 16384, PROT_READ) = 0
mprotect(0x561d37e7f000, 4096, PROT_READ) = 0
mprotect(0x7fdf5c500000, 8192, PROT_READ) = 0
prlimit64(0, RLIMIT_STACK, NULL, {rlim_cur=8192*1024, rlim_max=RLIM64_INFINITY}) =
0
munmap(0x7fdf5c4b2000, 80547) = 0
write(1, "Enter filename with file extensi"... , 37Enter filename with file extension: ) = 37
getrandom("\x87\x12\x50\xb6\xf6\x53\x12\xc5", 8, GRND_NONBLOCK) = 8
brk(NULL) = 0x561d39c65000
brk(0x561d39c86000) = 0x561d39c86000
read(0, 2.txt
"2", 1) = 1
read(0, ".", 1) = 1
read(0, "t", 1) = 1
read(0, "x", 1) = 1
read(0, "t", 1) = 1
read(0, "\n", 1) = 1
openat(AT_FDCWD, "2.txt", O_WRONLY|O_CREAT, 0777) = 3
getpid() = 30563
clone(child_stack=NULL,
flags=CLONE_CHILD_CLEARTID|CLONE_CHILD_SETTID|SIGCHLD,
child_tidptr=0x7fdf5c4afa10) = 30564
strace: Process 30564 attached
[pid 30563] close(3) = 0
[pid 30563] write(1, "Enter something you want: \n\0", 28Enter something you want:
) = 28
[pid 30563] openat(AT_FDCWD, "/dev/shm/mappa1",
O_RDWR|O_CREAT|O_NOFOLLOW|O_CLOEXEC, 0600 <unfinished ...>
[pid 30564] set_robust_list(0x7fdf5c4afa20, 24 <unfinished ...>
[pid 30563] <... openat resumed> = 3
[pid 30563] ftruncate(3, 500) = 0
[pid 30564] <... set_robust_list resumed> = 0
[pid 30563] mmap(NULL, 500, PROT_READ|PROT_WRITE, MAP_SHARED, 3, 0) =
0x7fdf5c4ff000
[pid 30563] read(0, <unfinished ...>
[pid 30564] dup2(3, 1) = 1

```

```

[pid 30564] execve("./child", ["/child", "30563"], 0x7ffc91fb1438 /* 56 vars */) = 0
[pid 30564] brk(NULL) = 0x55a15aec8000
[pid 30564] arch_prctl(0x3001 /* ARCH_??? */, 0x7fff265e10d0) = -1 EINVAL (Invalid
argument)
[pid 30564] mmap(NULL, 8192, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7f03c97d4000
[pid 30564] access("/etc/ld.so.preload", R_OK) = -1 ENOENT (No such file or directory)
[pid 30564] openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 4
= 0 [pid 30564] newfstatat(4, "", {st_mode=S_IFREG|0644, st_size=80547, ...}, AT_EMPTY_PATH)
[pid 30564] mmap(NULL, 80547, PROT_READ, MAP_PRIVATE, 4, 0) = 0x7f03c97c0000
[pid 30564] close(4) = 0
= 4 [pid 30564] openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libc.so.6", O_RDONLY|O_CLOEXEC)
832 [pid 30564] read(4, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\3\0>\0\1\0\0\0P\237\2\0\0\0\0"..., 832) =
[pid 30564] pread64(4, "\6\0\0\0\4\0\0\0@\0\0\0\0\0\0@\0\0\0\0\0\0@\0\0\0\0\0\0"..., 784,
64) = 784
[pid 30564] pread64(4, "\4\0\0\0\0\0\0\5\0\0\0GNU\0\2\0\0\300\4\0\0\0\3\0\0\0\0\0\0"..., 48,
848) = 48
[pid 30564] pread64(4, "\4\0\0\0\24\0\0\0\3\0\0\0GNU\0
=340\2563\265?\356\25x\261\27\313A#\350"..., 68, 896) = 68
[pid 30564] newfstatat(4, "", {st_mode=S_IFREG|0755, st_size=2216304, ...},
AT_EMPTY_PATH) = 0
[pid 30564] pread64(4, "\6\0\0\0\4\0\0\0@\0\0\0\0\0\0@\0\0\0\0\0\0@\0\0\0\0\0\0"..., 784,
64) = 784
[pid 30564] mmap(NULL, 2260560, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 4, 0) =
0x7f03c9400000
[pid 30564] mmap(0x7f03c9428000, 1658880, PROT_READ|PROT_EXEC,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 4, 0x28000) = 0x7f03c9428000
[pid 30564] mmap(0x7f03c95bd000, 360448, PROT_READ,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 4, 0x1bd000) = 0x7f03c95bd000
[pid 30564] mmap(0x7f03c9615000, 24576, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 4, 0x214000) = 0x7f03c9615000
[pid 30564] mmap(0x7f03c961b000, 52816, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7f03c961b000
[pid 30564] close(4) = 0
[pid 30564] mmap(NULL, 12288, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7f03c97bd000
[pid 30564] arch_prctl(ARCH_SET_FS, 0x7f03c97bd740) = 0
[pid 30564] set_tid_address(0x7f03c97bda10) = 30564
[pid 30564] set_robust_list(0x7f03c97bda20, 24) = 0
[pid 30564] rseq(0x7f03c97be0e0, 0x20, 0, 0x53053053) = 0
[pid 30564] mprotect(0x7f03c9615000, 16384, PROT_READ) = 0
[pid 30564] mprotect(0x55a15ad18000, 4096, PROT_READ) = 0
[pid 30564] mprotect(0x7f03c980e000, 8192, PROT_READ) = 0
[pid 30564] prlimit64(0, RLIMIT_STACK, NULL, {rlim_cur=8192*1024,

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rlim_max=RLIM64_INFINITY})) = 0

[pid 30564] munmap(0x7f03c97c0000, 80547) = 0

[pid 30564] rt_sigaction(SIGUSR1, {sa_handler=0x55a15ad15389, sa_mask=[],

sa_flags=SA_RESTORER|SA_INTERRUPT|SA_NODEFER|SA_RESETHAND|0xffffffff00000000,

sa_restorer=0x7f03c9442520}, {sa_handler=SIG_DFL, sa_mask=[], sa_flags=0}, 8) = 0

[pid 30563] <... read resumed>0x7ffc91fb1277, 1) = ? ERESTARTSYS (To be restarted if SA_RESTART is set)

[pid 30564] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---

[pid 30563] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---

set) [pid 30563] read(0, 0x7ffc91fb1277, 1) = ? ERESTARTSYS (To be restarted if SA_RESTART is

[pid 30564] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---

[pid 30563] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---

[pid 30563] read(0, <unfinished ...>

[pid 30564] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---

[pid 30563] <... read resumed>0x7ffc91fb1277, 1) = ? ERESTARTSYS (To be restarted if SA_RESTART is set)

[pid 30563] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---

[pid 30563] read(0, <unfinished ...>

[pid 30564] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---

[pid 30563] <... read resumed>0x7ffc91fb1277, 1) = ? ERESTARTSYS (To be restarted if SA_RESTART is set)

[pid 30563] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---

[pid 30563] read(0, <unfinished ...>

[pid 30564] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---

[pid 30563] <... read resumed>0x7ffc91fb1277, 1) = ? ERESTARTSYS (To be restarted if SA_RESTART is set)

[pid 30563] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---

[pid 30563] read(0, <unfinished ...>

[pid 30564] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---

[pid 30563] <... read resumed>0x7ffc91fb1277, 1) = ? ERESTARTSYS (To be restarted if SA_RESTART is set)

[pid 30563] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---

[pid 30563] read(0, <unfinished ...>

[pid 30564] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---

[pid 30563] <... read resumed>0x7ffc91fb1277, 1) = ? ERESTARTSYS (To be restarted if SA_RESTART is set)

[pid 30563] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---

[pid 30563] read(0, <unfinished ...>

[pid 30564] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---

[pid 30563] <... read resumed>0x7ffc91fb1277, 1) = ? ERESTARTSYS (To be restarted if SA_RESTART is set)

[pid 30563] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---

[pid 30563] read(0, <unfinished ...>

[pid 30564] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---

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[pid 30563] <... read resumed>0x7ffc91fb1277, 1) = ? ERESTARTSYS (To be restarted if
SA_RESTART is set)
[pid 30563] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---
[pid 30563] read(0, <unfinished ...>
[pid 30564] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---
[pid 30563] <... read resumed>0x7ffc91fb1277, 1) = ? ERESTARTSYS (To be restarted if
SA_RESTART is set)
[pid 30563] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---
[pid 30563] read(0, <unfinished ...>
[pid 30564] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---
[pid 30563] <... read resumed>0x7ffc91fb1277, 1) = ? ERESTARTSYS (To be restarted if
SA_RESTART is set)
[pid 30563] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---
[pid 30563] read(0, <unfinished ...>
[pid 30564] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---
[pid 30563] <... read resumed>0x7ffc91fb1277, 1) = ? ERESTARTSYS (To be restarted if
SA_RESTART is set)
[pid 30563] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---
[pid 30563] read(0, <unfinished ...>
[pid 30564] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---
[pid 30563] <... read resumed>0x7ffc91fb1277, 1) = ? ERESTARTSYS (To be restarted if
SA_RESTART is set)
[pid 30563] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---
[pid 30563] read(0, <unfinished ...>
[pid 30564] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---
[pid 30563] <... read resumed>0x7ffc91fb1277, 1) = ? ERESTARTSYS (To be restarted if
SA_RESTART is set)
[pid 30563] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---
[pid 30563] read(0, <unfinished ...>
[pid 30564] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---
[pid 30563] <... read resumed>0x7ffc91fb1277, 1) = ? ERESTARTSYS (To be restarted if
SA_RESTART is set)
[pid 30563] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---
[pid 30563] read(0, <unfinished ...>
[pid 30564] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---
[pid 30563] <... read resumed>0x7ffc91fb1277, 1) = ? ERESTARTSYS (To be restarted if
SA_RESTART is set)
[pid 30563] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---
[pid 30563] read(0, 0x7ffc91fb1277, 1) = ? ERESTARTSYS (To be restarted if SA_RESTART is
set)
[pid 30564] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---

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[pid 30563] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---
[pid 30563] read(0, <unfinished ...>
[pid 30564] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---
[pid 30563] <... read resumed>0x7ffc91fb1277, 1) = ? ERESTARTSYS (To be restarted if
SA_RESTORER is set)
[pid 30563] --- SIGWINCH {si_signo=SIGWINCH, si_code=SI_KERNEL} ---
[pid 30563] read(0, Hi
"H", 1)          = 1
[pid 30563] read(0, "i", 1)          = 1
[pid 30563] read(0, "\n", 1)         = 1
[pid 30563] munmap(0x7fdf5c4ff000, 500) = 0
[pid 30563] close(3)                  = 0
[pid 30563] kill(30564, SIGUSR1)      = 0
--- [pid 30564] --- SIGUSR1 {si_signo=SIGUSR1, si_code=SI_USER, si_pid=30563, si_uid=1000}
[pid 30563] rt_sigaction(SIGUSR1, {sa_handler=0x561d37e7c429, sa_mask=[],
00, sa_flags=SA_RESTORER|SA_INTERRUPT|SA_NODEFER|SA_RESETHAND|0xffffffff00000000
sa_restorer=0x7fdf5c242520}, {sa_handler=SIG_DFL, sa_mask=[], sa_flags=0}, 8) = 0

[pid 30564] rt_sigreturn({mask=[]})   = 0
[pid 30564] openat(AT_FDCWD, "/dev/shm/mappa1",
O_RDWR|O_CREAT|O_NOFOLLOW|O_CLOEXEC, 0600) = 4
[pid 30564] ftruncate(4, 500)          = 0
[pid 30564] mmap(NULL, 500, PROT_READ|PROT_WRITE, MAP_SHARED, 4, 0) =
0x7f03c980d000
[pid 30564] getrandom("\x81\xfd\x9f\xdd\x47\x1f\x9f\x9f", 8, GRND_NONBLOCK) = 8
[pid 30564] brk(NULL)                  = 0x55a15aec8000
[pid 30564] brk(0x55a15aee9000)        = 0x55a15aee9000
[pid 30564] munmap(0x7f03c980d000, 500) = 0
[pid 30564] close(4)                   = 0
[pid 30564] write(1, "Hi\n", 3)        = 3
[pid 30564] openat(AT_FDCWD, "/dev/shm/mappa2",
O_RDWR|O_CREAT|O_NOFOLLOW|O_CLOEXEC, 0600) = 4
[pid 30564] ftruncate(4, 1)            = 0
[pid 30564] mmap(NULL, 1, PROT_READ|PROT_WRITE, MAP_SHARED, 4, 0) =
0x7f03c980d000
[pid 30564] munmap(0x7f03c980d000, 1)   = 0
[pid 30564] close(4)                   = 0
[pid 30564] kill(30563, SIGUSR1 <unfinished ...>
--- [pid 30563] --- SIGUSR1 {si_signo=SIGUSR1, si_code=SI_USER, si_pid=30564, si_uid=1000}
[pid 30564] <... kill resumed>         = 0
[pid 30563] rt_sigreturn({mask=[]} <unfinished ...>
[pid 30564] rt_sigaction(SIGUSR1, {sa_handler=0x55a15ad15389, sa_mask=[],
sa_flags=SA_RESTORER|SA_INTERRUPT|SA_NODEFER|SA_RESETHAND|0xffffffff00000000,
sa_restorer=0x7f03c9442520}, <unfinished ...>

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[pid 30563] <... rt_sigreturn resumed>) = 0
[pid 30564] <... rt_sigaction resumed>{sa_handler=SIG_DFL, sa_mask=[],
= 0   sa_flags=SA_RESTORER|SA_NODEFER|SA_RESETHAND, sa_restorer=0x7f03c9442520}, 8)

[pid 30563] openat(AT_FDCWD, "/dev/shm/mappa2",
O_RDWR|O_CREAT|O_NOFOLLOW|O_CLOEXEC, 0600) = 3
[pid 30563] ftruncate(3, 1) = 0
[pid 30563] mmap(NULL, 1, PROT_READ|PROT_WRITE, MAP_SHARED, 3, 0) =
0x7fdf5c4ff000
[pid 30563] munmap(0x7fdf5c4ff000, 1) = 0
[pid 30563] close(3) = 0
[pid 30563] openat(AT_FDCWD, "/dev/shm/mappa1",
O_RDWR|O_CREAT|O_NOFOLLOW|O_CLOEXEC, 0600) = 3
[pid 30563] ftruncate(3, 500) = 0
[pid 30563] mmap(NULL, 500, PROT_READ|PROT_WRITE, MAP_SHARED, 3, 0) =
0x7fdf5c4ff000
[pid 30563] read(0, hi
"h", 1) = 1
[pid 30563] read(0, "i", 1) = 1
[pid 30563] read(0, "\n", 1) = 1
[pid 30563] munmap(0x7fdf5c4ff000, 500) = 0
[pid 30563] close(3) = 0
[pid 30563] kill(30564, SIGUSR1) = 0
--- [pid 30564] --- SIGUSR1 {si_signo=SIGUSR1, si_code=SI_USER, si_pid=30563, si_uid=1000}

[pid 30563] rt_sigaction(SIGUSR1, {sa_handler=0x561d37e7c429, sa_mask=[],
sa_flags=SA_RESTORER|SA_INTERRUPT|SA_NODEFER|SA_RESETHAND|0xffffffff00000000,
sa_restorer=0x7fdf5c242520}, <unfinished ...>
[pid 30564] rt_sigreturn({mask=[]} <unfinished ...>
[pid 30563] <... rt_sigaction resumed>{sa_handler=SIG_DFL, sa_mask=[],
= 0   sa_flags=SA_RESTORER|SA_NODEFER|SA_RESETHAND, sa_restorer=0x7fdf5c242520}, 8)

[pid 30564] <... rt_sigreturn resumed>) = 0
[pid 30564] openat(AT_FDCWD, "/dev/shm/mappa1",
O_RDWR|O_CREAT|O_NOFOLLOW|O_CLOEXEC, 0600) = 4
[pid 30564] ftruncate(4, 500) = 0
[pid 30564] mmap(NULL, 500, PROT_READ|PROT_WRITE, MAP_SHARED, 4, 0) =
0x7f03c980d000
[pid 30564] munmap(0x7f03c980d000, 500) = 0
[pid 30564] close(4) = 0
[pid 30564] openat(AT_FDCWD, "/dev/shm/mappa2",
O_RDWR|O_CREAT|O_NOFOLLOW|O_CLOEXEC, 0600) = 4
[pid 30564] ftruncate(4, 1) = 0
[pid 30564] mmap(NULL, 1, PROT_READ|PROT_WRITE, MAP_SHARED, 4, 0) =
0x7f03c980d000
[pid 30564] munmap(0x7f03c980d000, 1) = 0

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[pid 30564] close(4) = 0
[pid 30564] kill(30563, SIGUSR1 <unfinished ...>
--- [pid 30563] --- SIGUSR1 {si_signo=SIGUSR1, si_code=SI_USER, si_pid=30564, si_uid=1000}
[pid 30564] <... kill resumed> = 0
[pid 30563] rt_sigreturn({mask=[]} <unfinished ...>
[pid 30564] rt_sigaction(SIGUSR1, {sa_handler=0x55a15ad15389, sa_mask=[],
sa_flags=SA_RESTORER|SA_INTERRUPT|SA_NODEFER|SA_RESETHAND|0xffffffff00000000,
sa_restorer=0x7f03c9442520}, <unfinished ...>
[pid 30563] <... rt_sigreturn resumed>) = 0
[pid 30564] <... rt_sigaction resumed>{sa_handler=SIG_DFL, sa_mask=[],
= 0 sa_flags=SA_RESTORER|SA_NODEFER|SA_RESETHAND, sa_restorer=0x7f03c9442520}, 8)
[pid 30563] openat(AT_FDCWD, "/dev/shm/mappa2",
O_RDWR|O_CREAT|O_NOFOLLOW|O_CLOEXEC, 0600) = 3
[pid 30563] ftruncate(3, 1) = 0
[pid 30563] mmap(NULL, 1, PROT_READ|PROT_WRITE, MAP_SHARED, 3, 0) =
0x7fdf5c4ff000
[pid 30563] munmap(0x7fdf5c4ff000, 1) = 0
[pid 30563] close(3) = 0
[pid 30563] write(1, "\33[31m\0", 6) = 6
[pid 30563] write(1, "Error!_Uncorrect input.", 23Error!_Uncorrect input.) = 23
[pid 30563] write(1, "\33[0m\0", 5) = 5
[pid 30563] write(1, "\n\0", 2
) = 2
[pid 30563] openat(AT_FDCWD, "/dev/shm/mappa1",
O_RDWR|O_CREAT|O_NOFOLLOW|O_CLOEXEC, 0600) = 3
[pid 30563] ftruncate(3, 500) = 0
[pid 30563] mmap(NULL, 500, PROT_READ|PROT_WRITE, MAP_SHARED, 3, 0) =
0x7fdf5c4ff000
[pid 30563] read(0, hhhh
"h", 1) = 1
[pid 30563] read(0, "h", 1) = 1
[pid 30563] read(0, "h", 1) = 1
[pid 30563] read(0, "h", 1) = 1
[pid 30563] read(0, "\n", 1) = 1
[pid 30563] munmap(0x7fdf5c4ff000, 500) = 0
[pid 30563] close(3) = 0
[pid 30563] kill(30564, SIGUSR1) = 0
--- [pid 30564] --- SIGUSR1 {si_signo=SIGUSR1, si_code=SI_USER, si_pid=30563, si_uid=1000}
[pid 30563] rt_sigaction(SIGUSR1, {sa_handler=0x561d37e7c429, sa_mask=[],
sa_flags=SA_RESTORER|SA_INTERRUPT|SA_NODEFER|SA_RESETHAND|0xffffffff00000000,
sa_restorer=0x7fdf5c242520}, <unfinished ...>
[pid 30564] rt_sigreturn({mask=[]} <unfinished ...>
[pid 30563] <... rt_sigaction resumed>{sa_handler=SIG_DFL, sa_mask=[],
= 0 sa_flags=SA_RESTORER|SA_NODEFER|SA_RESETHAND, sa_restorer=0x7fdf5c242520}, 8)

```

```

[pid 30564] <... rt_sigreturn resumed>) = 0
[pid 30564] openat(AT_FDCWD, "/dev/shm/mappa1",
O_RDWR|O_CREAT|O_NOFOLLOW|O_CLOEXEC, 0600) = 4
[pid 30564] ftruncate(4, 500) = 0
[pid 30564] mmap(NULL, 500, PROT_READ|PROT_WRITE, MAP_SHARED, 4, 0) =
0x7f03c980d000
[pid 30564] munmap(0x7f03c980d000, 500) = 0
[pid 30564] close(4) = 0
[pid 30564] openat(AT_FDCWD, "/dev/shm/mappa2",
O_RDWR|O_CREAT|O_NOFOLLOW|O_CLOEXEC, 0600) = 4
[pid 30564] ftruncate(4, 1) = 0
[pid 30564] mmap(NULL, 1, PROT_READ|PROT_WRITE, MAP_SHARED, 4, 0) =
0x7f03c980d000
[pid 30564] munmap(0x7f03c980d000, 1) = 0
[pid 30564] close(4) = 0
[pid 30564] kill(30563, SIGUSR1 <unfinished ...>
--- [pid 30563] --- SIGUSR1 {si_signo=SIGUSR1, si_code=SI_USER, si_pid=30564, si_uid=1000}
[pid 30564] <... kill resumed>) = 0
[pid 30563] rt_sigreturn({mask=[]} <unfinished ...>
[pid 30564] rt_sigaction(SIGUSR1, {sa_handler=0x55a15ad15389, sa_mask=[],
sa_flags=SA_RESTORER|SA_INTERRUPT|SA_NODEFER|SA_RESETHAND|0xffffffff00000000,
sa_restorer=0x7f03c9442520}, <unfinished ...>
[pid 30563] <... rt_sigreturn resumed>) = 0
[pid 30564] <... rt_sigaction resumed>{sa_handler=SIG_DFL, sa_mask=[],
= 0 sa_flags=SA_RESTORER|SA_NODEFER|SA_RESETHAND, sa_restorer=0x7f03c9442520}, 8)
[pid 30563] openat(AT_FDCWD, "/dev/shm/mappa2",
O_RDWR|O_CREAT|O_NOFOLLOW|O_CLOEXEC, 0600) = 3
[pid 30563] ftruncate(3, 1) = 0
[pid 30563] mmap(NULL, 1, PROT_READ|PROT_WRITE, MAP_SHARED, 3, 0) =
0x7fdf5c4ff000
[pid 30563] munmap(0x7fdf5c4ff000, 1) = 0
[pid 30563] close(3) = 0
[pid 30563] write(1, "\33[31m\0", 6) = 6
[pid 30563] write(1, "Error! _Uncorrect input.", 23Error! _Uncorrect input.) = 23
[pid 30563] write(1, "\33[0m\0", 5) = 5
[pid 30563] write(1, "\n\0", 2
) = 2
[pid 30563] openat(AT_FDCWD, "/dev/shm/mappa1",
O_RDWR|O_CREAT|O_NOFOLLOW|O_CLOEXEC, 0600) = 3
[pid 30563] ftruncate(3, 500) = 0
[pid 30563] mmap(NULL, 500, PROT_READ|PROT_WRITE, MAP_SHARED, 3, 0) =
0x7fdf5c4ff000
[pid 30563] read(0, Ha!
"H", 1) = 1

```



```

[pid 30563] read(0, "a", 1)          = 1
[pid 30563] read(0, "!", 1)         = 1
[pid 30563] read(0, "\n", 1)        = 1
[pid 30563] munmap(0x7fdf5c4ff000, 500) = 0
[pid 30563] close(3)                = 0
[pid 30563] kill(30564, SIGUSR1)     = 0
--- [pid 30564] --- SIGUSR1 {si_signo=SIGUSR1, si_code=SI_USER, si_pid=30563, si_uid=1000}

[pid 30563] rt_sigaction(SIGUSR1, {sa_handler=0x561d37e7c429, sa_mask=[],
sa_flags=SA_RESTORER|SA_INTERRUPT|SA_NODEFER|SA_RESETHAND|0xffffffff00000000,
sa_restorer=0x7fdf5c242520}, <unfinished ...>
[pid 30564] rt_sigreturn({mask=[]} <unfinished ...>
[pid 30563] <... rt_sigaction resumed> {sa_handler=SIG_DFL, sa_mask=[],
= 0 sa_flags=SA_RESTORER|SA_NODEFER|SA_RESETHAND, sa_restorer=0x7fdf5c242520}, 8)
[pid 30564] <... rt_sigreturn resumed>) = 0
[pid 30564] openat(AT_FDCWD, "/dev/shm/mappa1",
O_RDWR|O_CREAT|O_NOFOLLOW|O_CLOEXEC, 0600) = 4
[pid 30564] ftruncate(4, 500)        = 0
[pid 30564] mmap(NULL, 500, PROT_READ|PROT_WRITE, MAP_SHARED, 4, 0) =
0x7f03c980d000
[pid 30564] munmap(0x7f03c980d000, 500) = 0
[pid 30564] close(4)                 = 0
[pid 30564] write(1, "Ha!\n", 4)     = 4
[pid 30564] openat(AT_FDCWD, "/dev/shm/mappa2",
O_RDWR|O_CREAT|O_NOFOLLOW|O_CLOEXEC, 0600) = 4
[pid 30564] ftruncate(4, 1)          = 0
[pid 30564] mmap(NULL, 1, PROT_READ|PROT_WRITE, MAP_SHARED, 4, 0) =
0x7f03c980d000
[pid 30564] munmap(0x7f03c980d000, 1) = 0
[pid 30564] close(4)                 = 0
[pid 30564] kill(30563, SIGUSR1 <unfinished ...>
--- [pid 30563] --- SIGUSR1 {si_signo=SIGUSR1, si_code=SI_USER, si_pid=30564, si_uid=1000}

[pid 30564] <... kill resumed>)      = 0
[pid 30563] rt_sigreturn({mask=[]} <unfinished ...>
[pid 30564] rt_sigaction(SIGUSR1, {sa_handler=0x55a15ad15389, sa_mask=[],
sa_flags=SA_RESTORER|SA_INTERRUPT|SA_NODEFER|SA_RESETHAND|0xffffffff00000000,
sa_restorer=0x7f03c9442520}, <unfinished ...>
[pid 30563] <... rt_sigreturn resumed>) = 0
[pid 30564] <... rt_sigaction resumed> {sa_handler=SIG_DFL, sa_mask=[],
= 0 sa_flags=SA_RESTORER|SA_NODEFER|SA_RESETHAND, sa_restorer=0x7f03c9442520}, 8)
[pid 30563] openat(AT_FDCWD, "/dev/shm/mappa2",
O_RDWR|O_CREAT|O_NOFOLLOW|O_CLOEXEC, 0600) = 3
[pid 30563] ftruncate(3, 1)          = 0
[pid 30563] mmap(NULL, 1, PROT_READ|PROT_WRITE, MAP_SHARED, 3, 0) =

```

```

0x7fdf5c4ff000
[pid 30563] munmap(0x7fdf5c4ff000, 1) = 0
[pid 30563] close(3) = 0
[pid 30563] openat(AT_FDCWD, "/dev/shm/mappa1",
O_RDWR|O_CREAT|O_NOFOLLOW|O_CLOEXEC, 0600) = 3
[pid 30563] ftruncate(3, 500) = 0
[pid 30563] mmap(NULL, 500, PROT_READ|PROT_WRITE, MAP_SHARED, 3, 0) =
0x7fdf5c4ff000
[pid 30563] read(0,
"\n", 1) = 1
[pid 30563] write(1, "\33[32m\0", 6) = 6
[pid 30563] write(1, "\n\0", 2
) = 2
[pid 30563] write(1, "Program was ended successfully!", 31Program was ended successfully!) = 31
[pid 30563] write(1, "\n\0", 2
) = 2
[pid 30563] write(1, "\33[0m\0", 5) = 5
[pid 30563] kill(30564, SIGTERM) = 0
--- [pid 30564] --- SIGTERM {si_signo=SIGTERM, si_code=SI_USER, si_pid=30563, si_uid=1000}
[pid 30563] unlink("/dev/shm/mappa2") = 0
[pid 30563] unlink("/dev/shm/mappa1") = 0
[pid 30563] exit_group(0) = ?
[pid 30564] +++ killed by SIGTERM +++
+++ exited with 0 +++
arsenii@PC-Larcha14:~/Documents/VS_code_prog/OSI/laba_3$

```

Laba_4:

```

arsenii@PC-Larcha14:~/Documents/VS_code_prog/OSI/laba_4$ strace -f ./dynamic
execve("./dynamic", ["/dynamic"], 0x7fff8e286ce8 /* 56 vars */) = 0
brk(NULL) = 0x556daa872000
arch_prctl(0x3001 /* ARCH_??? */, 0x7fff33385510) = -1 EINVAL (Invalid argument)
mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1,
0) = 0x7f1072bd7000
access("/etc/ld.so.preload", R_OK) = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3
newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=80671, ...}, AT_EMPTY_PATH) = 0
mmap(NULL, 80671, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7f1072bc3000
close(3) = 0
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libc.so.6", O_RDONLY|O_CLOEXEC) = 3
read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\3\0>\0\1\0\0\0P\237\2\0\0\0\0"..., 832) = 832
pread64(3, "\6\0\0\0\4\0\0\0@\0\0\0\0\0\0@\0\0\0\0\0\0@\0\0\0\0\0\0"..., 784, 64) = 784
pread64(3, "\4\0\0\0\0\0\0\5\0\0\0GNU\0\2\0\0\300\4\0\0\0\3\0\0\0\0\0\0"..., 48, 848) = 48
pread64(3, "\4\0\0\0\24\0\0\0\3\0\0\0GNU\0 =\340\256\3\265?\356\25x\261\27\313A#\350"..., 68,
896) = 68
newfstatat(3, "", {st_mode=S_IFREG|0755, st_size=2216304, ...}, AT_EMPTY_PATH) = 0

```

```
pread64(3, "\\0\\0\\0\\0\\0\\0@\\0\\0\\0\\0\\0\\0@\\0\\0\\0\\0\\0\\0@\\0\\0\\0\\0\\0\\0...", 784, 64) = 784
mmap(NULL, 2260560, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) =
    0x7f1072800000
mmap(0x7f1072828000, 1658880, PROT_READ|PROT_EXEC,
    MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x28000) = 0x7f1072828000
mmap(0x7f10729bd000, 360448, PROT_READ,
    MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1bd000) = 0x7f10729bd000
mmap(0x7f1072a15000, 24576, PROT_READ|PROT_WRITE,
    MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x214000) = 0x7f1072a15000
mmap(0x7f1072a1b000, 52816, PROT_READ|PROT_WRITE,
    MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7f1072a1b000
close(3) = 0
mmap(NULL, 12288, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1,
    0) = 0x7f1072bc0000
arch_prctl(ARCH_SET_FS, 0x7f1072bc0740) = 0
set_tid_address(0x7f1072bc0a10) = 11866
set_robust_list(0x7f1072bc0a20, 24) = 0
rseq(0x7f1072bc10e0, 0x20, 0, 0x53053053) = 0
mprotect(0x7f1072a15000, 16384, PROT_READ) = 0
mprotect(0x556da96e8000, 4096, PROT_READ) = 0
mprotect(0x7f1072c11000, 8192, PROT_READ) = 0
prlimit64(0, RLIMIT_STACK, NULL, {rlim_cur=8192*1024, rlim_max=RLIM64_INFINITY}) =
0
munmap(0x7f1072bc3000, 80671) = 0
getrandom("\\xc1\\x4a\\x8a\\xbd\\x71\\x53\\xad\\xf2", 8, GRND_NONBLOCK) = 8
brk(NULL) = 0x556daa872000
brk(0x556daa893000) = 0x556daa893000
openat(AT_FDCWD, "/libfirst_realization.so", O_RDONLY|O_CLOEXEC) = 3
read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0\0...", 832) = 832
newfstatat(3, "", {st_mode=S_IFREG|0775, st_size=15664, ...}, AT_EMPTY_PATH) = 0
getcwd("/home/arsenii/Documents/Vs_code_prog/OSI/laba_4", 128) = 48
mmap(NULL, 16440, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) =
    0x7f1072bd2000
mmap(0x7f1072bd3000, 4096, PROT_READ|PROT_EXEC,
    MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1000) = 0x7f1072bd3000
mmap(0x7f1072bd4000, 4096, PROT_READ,
    MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x2000) = 0x7f1072bd4000
mmap(0x7f1072bd5000, 8192, PROT_READ|PROT_WRITE,
    MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x2000) = 0x7f1072bd5000
close(3) = 0
openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3
newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=80671, ...}, AT_EMPTY_PATH) = 0
mmap(NULL, 80671, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7f1072bac000
close(3) = 0
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libm.so.6", O_RDONLY|O_CLOEXEC) = 3
read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0\0...", 832) = 832
```

```

newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=940560, ...}, AT_EMPTY_PATH) = 0
mmap(NULL, 942344, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) =
0x7f1072ac5000
mmap(0x7f1072ad3000, 507904, PROT_READ|PROT_EXEC,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0xe000) = 0x7f1072ad3000
mmap(0x7f1072b4f000, 372736, PROT_READ,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x8a000) = 0x7f1072b4f000
mmap(0x7f1072baa000, 8192, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0xe4000) = 0x7f1072baa000
close(3) = 0
mprotect(0x7f1072baa000, 4096, PROT_READ) = 0
mprotect(0x7f1072bd5000, 4096, PROT_READ) = 0
munmap(0x7f1072bac000, 80671) = 0
= 0 newfstatat(1, "", {st_mode=S_IFCHR|0620, st_rdev=makedev(0x88, 0), ...}, AT_EMPTY_PATH)
write(1, "\n", 1
) = 1
write(1, "Choose comand. Press: \n", 23Choose comand. Press:
) = 23
write(1, "- 0 for changing realization \n", 30- 0 for changing realization
) = 30
write(1, "- 1 for cos derivative\n", 23- 1 for cos derivative
) = 23
write(1, "- 2 for sorting array\n", 22- 2 for sorting array
) = 22
= 0 newfstatat(0, "", {st_mode=S_IFCHR|0620, st_rdev=makedev(0x88, 0), ...}, AT_EMPTY_PATH)
read(0, 1
"1\n", 1024) = 2
write(1, "Input angle in degrees ", 23Input angle in degrees ) = 23
read(0, 60
"60\n", 1024) = 3
write(1, "Input Dx in radians ", 20Input Dx in radians ) = 20
read(0, 0.001
"0.001\n", 1024) = 6
write(1, "Answ: -0.866294\n", 16Answ: -0.866294
) = 16
write(1, "\nChoose comand. Press: \n- 0 for "..., 77н
Choose comand. Press:

- 0 for changing realization
- 1 for cos derivative
) = 77
write(1, "- 2 for sorting array\n", 22- 2 for sorting array
) = 22
read(0, 0
"0\n", 1024) = 2

```

```

munmap(0x7f1072bd2000, 16440)      = 0
munmap(0x7f1072ac5000, 942344)    = 0
openat(AT_FDCWD, "/libsecond_realization.so", O_RDONLY|O_CLOEXEC) = 3
read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0"..., 832) = 832
newfstatat(3, "", {st_mode=S_IFREG|0775, st_size=16008, ...}, AT_EMPTY_PATH) = 0
getcwd("/home/arsenii/Documents/VS_code_prog/OSI/laba_4", 128) = 48
mmap(NULL, 16496, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) =
0x7f1072bd2000
mmap(0x7f1072bd3000, 4096, PROT_READ|PROT_EXEC,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1000) = 0x7f1072bd3000

mmap(0x7f1072bd4000, 4096, PROT_READ,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x2000) = 0x7f1072bd4000
mmap(0x7f1072bd5000, 8192, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x2000) = 0x7f1072bd5000
close(3)                        = 0
openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3
newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=80671, ...}, AT_EMPTY_PATH) = 0
mmap(NULL, 80671, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7f1072bac000
close(3)                        = 0
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libm.so.6", O_RDONLY|O_CLOEXEC) = 3
read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0"..., 832) = 832
newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=940560, ...}, AT_EMPTY_PATH) = 0
mmap(NULL, 942344, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) =
0x7f1072ac5000
mmap(0x7f1072ad3000, 507904, PROT_READ|PROT_EXEC,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0xe000) = 0x7f1072ad3000
mmap(0x7f1072b4f000, 372736, PROT_READ,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x8a000) = 0x7f1072b4f000
mmap(0x7f1072baa000, 8192, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0xe4000) = 0x7f1072baa000
close(3)                        = 0
mprotect(0x7f1072baa000, 4096, PROT_READ) = 0
mprotect(0x7f1072bd5000, 4096, PROT_READ) = 0
munmap(0x7f1072bac000, 80671)     = 0
write(1, "Realization was changed from rea"..., 59Realization was changed from realization1 to
realization2.
) = 59
write(1, "\nChoose comand. Press: \n- 0 for "..., 77
Choose comand. Press:
- 0 for changing realization
- 1 for cos derivative
) = 77
write(1, "- 2 for sorting array\n", 22- 2 for sorting array
) = 22
read(0, 1

```

```

"1\n", 1024)          = 2
write(1, "Input angle in degrees ", 23Input angle in degrees ) = 23
read(0, 60
"60\n", 1024)          = 3
write(1, "Input Dx in radians ", 20Input Dx in radians )  = 20
read(0, 0.001
"0.001\n", 1024)       = 6
write(1, "Answ: -0.866026\n", 16Answ: -0.866026
)      = 16
write(1, "\nChoose comand. Press: \n- 0 for "..., 77
Choose comand. Press:
- 0 for changing realization
- 1 for cos derivative
) = 77
write(1, "- 2 for sorting array\n", 22- 2 for sorting array
) = 22
read(0, "", 1024)       = 0
write(1, "\n", 1
)      = 1
write(1, "Program has been ended. Bye!\n", 29Program has been ended. Bye!
) = 29
munmap(0x7f1072bd2000, 16496)      = 0
munmap(0x7f1072ac5000, 942344)     = 0
exit_group(0)                     = ?
+++ exited with 0 +++

```

Laba 5-7:

```

arsenii@PC-Larcha14:~/Documents/VS_code_prog/OSI/laba_5_7_clear$ strace -f -e
trace=\\!brk,clock_nanosleep,mmap,mprotect,munmap -owrite-simple3.log ./manage_main
Welcome in our programm! This is what command i can do:
- create 'id'
- exec 'id' 'command(start/stop/time)'
- heartbit 'time' (in ms)
- draw
Or enter q or ^D to exit
Enter you command:
->create 2
Ok: 20397
->create 3
Sending...
Ok:2: 20402
->exec 3 time
Sending...
Ok:3: 0
->exec 3 start
Sending...

```

```
Ok:3
ex ->exec 3 stop
Uncorrect input. Try again:
->Uncorrect input. Try again:
->Uncorrect input. Try again:
->exec 3 stop
Sending...
Ok:3
->exec 3 time
Sending...
Ok:3: 13275
->q
Break;
```

write-simple3.log:

(отключил вывод системного вызова `clock_nanosleep`, т.к. занимает уж ооочень много места, прошлый лог с ним был на 200 мб и 2,5 млн строчек...)

Пояснения:

sendto - отправление сообщения на сокет

recvmsg - получение сообщения с сокета

socket - создать конечную точку для связи

setsockopt() - set the socket options

bind() - bind a name to a socket

listen() - network listener daemon

getsockname() - get socket name

epoll_ctl - интерфейс управления описателями epoll (очень полезная штука, которая позволяет отложить реакцию на событие и продолжить ждать остальные события)

poll - input/output multiplexing (мультиплексирование — уплотнение канала, то есть передача нескольких потоков данных с меньшей скоростью по одному каналу)

```
20387 execve("./manage_main", ["/manage_main"], 0x7ffc80cae7e0 /* 56 vars */) = 0
```

```
20387 arch_prctl(0x3001 /* ARCH_??? */, 0x7ffe4ad486d0) = -1 EINVAL (Invalid argument)
```

```
20387 access("/etc/ld.so.preload", R_OK) = -1 ENOENT (No such file or directory)
```

20387 openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3

20387 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=81715, ...}, AT_EMPTY_PATH) = 0

20387 close(3) = 0

20387 openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libzmq.so.5", O_RDONLY|O_CLOEXEC) =

3

20387 read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\240\233\1\0\0\0\0\0"..., 832) = 832

20387 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=634936, ...}, AT_EMPTY_PATH) = 0

20387 close(3) = 0

20387 openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libstdc++.so.6", O_RDONLY|O_CLOEXEC)

= 3

20387 read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0"..., 832) = 832

20387 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=2260296, ...}, AT_EMPTY_PATH) = 0

20387 close(3) = 0

20387 openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libgcc_s.so.1", O_RDONLY|O_CLOEXEC) =

3

20387 read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0"..., 832) = 832

20387 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=125488, ...}, AT_EMPTY_PATH) = 0

20387 close(3) = 0

20387 openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libc.so.6", O_RDONLY|O_CLOEXEC) = 3

20387 read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\3\0>\0\1\0\0\0P\237\2\0\0\0\0"..., 832) = 832

20387 pread64(3, "\6\0\0\04\0\0\0@\0\0\0\0\0\0\0@\0\0\0\0\0\0\0@\0\0\0\0\0\0\0"..., 784, 64) =

784

20387 pread64(3, "\4\0\0\0\0\0\0\5\0\0\0GNU\0\2\0\0\300\4\0\0\0\3\0\0\0\0\0\0"..., 48, 848) =

48

20387 pread64(3, "\4\0\0\0\24\0\0\0\3\0\0\0GNU\0

=\340\2563\265?\356\25x\261\27\313A#\350"..., 68, 896) = 68

20387 newfstatat(3, "", {st_mode=S_IFREG|0755, st_size=2216304, ...}, AT_EMPTY_PATH) = 0

20387 pread64(3, "\6\0\0\04\0\0\0@\0\0\0\0\0\0\0@\0\0\0\0\0\0\0@\0\0\0\0\0\0\0"..., 784, 64) =

784

20387 close(3) = 0

20387 openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libbsd.so.0", O_RDONLY|O_CLOEXEC) = 3

20387 read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0"..., 832) = 832

20387 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=89096, ...}, AT_EMPTY_PATH) = 0
20387 close(3) = 0
20387 openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libsodium.so.23",
O_RDONLY|O_CLOEXEC) = 3
20387 read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0"..., 832) = 832
20387 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=355040, ...}, AT_EMPTY_PATH) = 0
20387 close(3) = 0
20387 openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libpgm-5.3.so.0",
O_RDONLY|O_CLOEXEC) = 3
20387 read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\340L\0\0\0\0\0"..., 832) = 832
20387 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=310264, ...}, AT_EMPTY_PATH) = 0
20387 close(3) = 0
20387 openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libnorm.so.1", O_RDONLY|O_CLOEXEC) =
3
20387 read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0 \255\0\0\0\0\0"..., 832) = 832
20387 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=497824, ...}, AT_EMPTY_PATH) = 0
20387 close(3) = 0
20387 openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libgssapi_krb5.so.2",
O_RDONLY|O_CLOEXEC) = 3
20387 read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0"..., 832) = 832
20387 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=338648, ...}, AT_EMPTY_PATH) = 0
20387 close(3) = 0
20387 openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libm.so.6", O_RDONLY|O_CLOEXEC) = 3
20387 read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0"..., 832) = 832
20387 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=940560, ...}, AT_EMPTY_PATH) = 0
20387 close(3) = 0
20387 openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libmd.so.0", O_RDONLY|O_CLOEXEC) = 3
20387 read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0"..., 832) = 832
20387 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=47472, ...}, AT_EMPTY_PATH) = 0
20387 close(3) = 0

= 3

20387 openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libpthread.so.0", O_RDONLY|O_CLOEXEC)

20387 read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0"..., 832) = 832

20387 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=21448, ...}, AT_EMPTY_PATH) = 0

20387 close(3) = 0

20387 openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libkrb5.so.3", O_RDONLY|O_CLOEXEC) =

3

20387 read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0"..., 832) = 832

20387 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=827936, ...}, AT_EMPTY_PATH) = 0

20387 close(3) = 0

20387 openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libk5crypto.so.3",

O_RDONLY|O_CLOEXEC) = 3

20387 read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0"..., 832) = 832

20387 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=182864, ...}, AT_EMPTY_PATH) = 0

20387 close(3) = 0

20387 openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libcom_err.so.2",

O_RDONLY|O_CLOEXEC) = 3

20387 read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0"..., 832) = 832

20387 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=18504, ...}, AT_EMPTY_PATH) = 0

20387 close(3) = 0

20387 openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libkrb5support.so.0",

O_RDONLY|O_CLOEXEC) = 3

20387 read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0"..., 832) = 832

20387 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=52016, ...}, AT_EMPTY_PATH) = 0

20387 close(3) = 0

20387 openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libkeyutils.so.1", O_RDONLY|O_CLOEXEC)

= 3

20387 read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0"..., 832) = 832

20387 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=22600, ...}, AT_EMPTY_PATH) = 0

20387 close(3) = 0

20387 openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libresolv.so.2", O_RDONLY|O_CLOEXEC) =

20387 read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0"..., 832) = 832

20387 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=68552, ...}, AT_EMPTY_PATH) = 0

20387 close(3) = 0

20387 arch_prctl(ARCH_SET_FS, 0x7f57c38339c0) = 0

20387 set_tid_address(0x7f57c3833c90) = 20387

20387 set_robust_list(0x7f57c3833ca0, 24) = 0

20387 rseq(0x7f57c3834360, 0x20, 0, 0x53053053) = 0

20387 prlimit64(0, RLIMIT_STACK, NULL, {rlim_cur=8192*1024, rlim_max=RLIM64_INFINITY}) = 0

20387 getrandom("\x2c\x01\xb6\x7f\xd4\xc3\xed\xa3", 8, GRND_NONBLOCK) = 8

20387 futex(0x7f57c382977c, FUTEX_WAKE_PRIVATE, 2147483647) = 0

20387 openat(AT_FDCWD, "/sys/devices/system/cpu/online", O_RDONLY|O_CLOEXEC) = 3

20387 read(3, "0-11\n", 1024) = 5

20387 close(3) = 0

20387 openat(AT_FDCWD, "/sys/devices/system/cpu", O_RDONLY|O_NONBLOCK|O_CLOEXEC|O_DIRECTORY) = 3

20387 newfstatat(3, "", {st_mode=S_IFDIR|0755, st_size=0, ...}, AT_EMPTY_PATH) = 0

20387 getdents64(3, 0x55f459f1bee0 /* 30 entries */, 32768) = 864

20387 getdents64(3, 0x55f459f1bee0 /* 0 entries */, 32768) = 0

20387 close(3) = 0

20387 getpid() = 20387

20387 sched_getaffinity(20387, 128, [0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11]) = 8

20387 newfstatat(AT_FDCWD, "/etc/nsswitch.conf", {st_mode=S_IFREG|0644, st_size=542, ...}, 0) = 0

20387 newfstatat(AT_FDCWD, "/", {st_mode=S_IFDIR|0755, st_size=4096, ...}, 0) = 0

20387 openat(AT_FDCWD, "/etc/nsswitch.conf", O_RDONLY|O_CLOEXEC) = 3

20387 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=542, ...}, AT_EMPTY_PATH) = 0

20387 read(3, "# /etc/nsswitch.conf\n#\n# Example"..., 4096) = 542

20387 read(3, "", 4096) = 0

```

20387 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=542, ...}, AT_EMPTY_PATH) = 0
20387 close(3) = 0
20387 openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3
20387 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=81715, ...}, AT_EMPTY_PATH) = 0
20387 close(3) = 0
20387 openat(AT_FDCWD, "/lib/x86_64-linux-gnu/glibc-hwcaps/x86-64-v4/libnss_db.so.2",
O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)
20387 newfstatat(AT_FDCWD, "/lib/x86_64-linux-gnu/glibc-hwcaps/x86-64-v4",
0x7ffe4ad456c0, 0) = -1 ENOENT (No such file or directory)

```

...openat+newfstatat...

```

20387 openat(AT_FDCWD, "/etc/protocols", O_RDONLY|O_CLOEXEC) = 3
20387 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=2932, ...}, AT_EMPTY_PATH) = 0
20387 lseek(3, 0, SEEK_SET) = 0
20387 read(3, "# Internet (IP) protocols\n#\n# Up"..., 4096) = 2932
20387 read(3, "", 4096) = 0
20387 close(3) = 0
20387 eventfd2(0, EFD_CLOEXEC) = 3
20387 fcntl(3, F_GETFL) = 0x2 (flags O_RDWR)
20387 fcntl(3, F_SETFL, O_RDWR|O_NONBLOCK) = 0
20387 fcntl(3, F_GETFL) = 0x802 (flags O_RDWR|O_NONBLOCK)
20387 fcntl(3, F_SETFL, O_RDWR|O_NONBLOCK) = 0
20387 getpid() = 20387
20387 getpid() = 20387
20387 getrandom("\x44\x22\x00\x61\x70\xa2\x3a\xe2\xe4\x3b\x22\x87\xa3\x11\xb3\xff", 16, 0) =
16
20387 getrandom("\x0d\x1d\xd1\x8b\xc8\x9a\x35\xc7\x37\x4b\x70\x6c\x57\xdd\xe8\xad", 16, 0)
= 16
20387 eventfd2(0, EFD_CLOEXEC) = 4
20387 fcntl(4, F_GETFL) = 0x2 (flags O_RDWR)

```

```

20387 fcntl(4, F_SETFL, O_RDWR|O_NONBLOCK) = 0
20387 fcntl(4, F_GETFL) = 0x802 (flags O_RDWR|O_NONBLOCK)
20387 fcntl(4, F_SETFL, O_RDWR|O_NONBLOCK) = 0
20387 getpid() = 20387
20387 epoll_create1(EPOLL_CLOEXEC) = 5
20387 epoll_ctl(5, EPOLL_CTL_ADD, 4, {events=0, data={u32=1509016160,
u64=94507969397344}}) = 0
20387 epoll_ctl(5, EPOLL_CTL_MOD, 4, {events=EPOLLIN, data={u32=1509016160,
u64=94507969397344}}) = 0
20387 getpid() = 20387
20387 rt_sigaction(SIGRT_1, {sa_handler=0x7f57c3291870, sa_mask=[],
sa_flags=SA_RESTORER|SA_ONSTACK|SA_RESTART|SA_SIGINFO,
sa_restorer=0x7f57c3242520}, NULL, 8) = 0
20387 rt_sigprocmask(SIG_UNBLOCK, [RTMIN RT_1], NULL, 8) = 0
20387 rt_sigprocmask(SIG_BLOCK, ~[], [], 8) = 0
20387 clone3({flags=CLONE_VM|CLONE_FS|CLONE_FILES|CLONE_SIGHAND|CLONE_T\
HREAD|CL
ONE_SYSVSEM|CLONE_SETTLS|CLONE_PARENT_SETTID|CLONE_CHILD_CLEARTID,
child_tid=0x7f57c2fb6910, parent_tid=0x7f57c2fb6910, exit_signal=0, stack=0x7f57c27b6000,
stack_size=0x7ffc80, tls=0x7f57c2fb6640} => {parent_tid=[20389]}, 88) = 20389
20389 rseq(0x7f57c2fb6fe0, 0x20, 0, 0x53053053 <unfinished ...>
20387 rt_sigprocmask(SIG_SETMASK, [], <unfinished ...>
20389 <... rseq resumed>) = 0
20387 <... rt_sigprocmask resumed>NULL, 8) = 0
20389 set_robust_list(0x7f57c2fb6920, 24 <unfinished ...>
20387 eventfd2(0, EFD_CLOEXEC <unfinished ...>
20389 <... set_robust_list resumed>) = 0
20387 <... eventfd2 resumed> = 6
20389 rt_sigprocmask(SIG_SETMASK, [], <unfinished ...>
20387 fcntl(6, F_GETFL <unfinished ...>

```

```

20389 <... rt_sigprocmask resumed>NULL, 8) = 0
20387 <... fcntl resumed>)          = 0x2 (flags O_RDWR)
20387 fcntl(6, F_SETFL, O_RDWR|O_NONBLOCK) = 0
20389 rt_sigprocmask(SIG_BLOCK, ~[RTMIN RT_1], <unfinished ...>
20387 fcntl(6, F_GETFL <unfinished ...>
20389 <... rt_sigprocmask resumed>NULL, 8) = 0
20387 <... fcntl resumed>)          = 0x802 (flags O_RDWR|O_NONBLOCK)
20387 fcntl(6, F_SETFL, O_RDWR|O_NONBLOCK <unfinished ...>
20389 sched_getparam(20389, <unfinished ...>
20387 <... fcntl resumed>)          = 0
20389 <... sched_getparam resumed>[0]) = 0
20387 getpid( <unfinished ...>
20389 sched_getscheduler(20389 <unfinished ...>
20387 <... getpid resumed>)          = 20387
20389 <... sched_getscheduler resumed>) = 0 (SCHED_OTHER)
20387 epoll_create1(EPOLL_CLOEXEC <unfinished ...>
20389 sched_setscheduler(20389, SCHED_OTHER, [0] <unfinished ...>
20387 <... epoll_create1 resumed>)    = 7
20387 epoll_ctl(7, EPOLL_CTL_ADD, 6, {events=0, data={u32=1509037216,
u64=94507969418400}} <unfinished ...>
20389 <... sched_setscheduler resumed>) = 0
20387 <... epoll_ctl resumed>)        = 0
20387 epoll_ctl(7, EPOLL_CTL_MOD, 6, {events=EPOLLIN, data={u32=1509037216,
u64=94507969418400}} <unfinished ...>
20389 prctl(PR_SET_NAME, "ZMQbg/Reaper" <unfinished ...>
20387 <... epoll_ctl resumed>)          = 0
20389 <... prctl resumed>)              = 0
20389 epoll_wait(5, <unfinished ...>
20387 rt_sigprocmask(SIG_BLOCK, ~[], [], 8) = 0
20387

```

```

clone3({flags=CLONE_VM|CLONE_FS|CLONE_FILES|CLONE_SIGHAND|CLONE_THREAD|CL
ONE_SYSVSEM|CLONE_SETTLS|CLONE_PARENT_SETTID|CLONE_CHILD_CLEARTID,
child_tid=0x7f57c27b5910, parent_tid=0x7f57c27b5910, exit_signal=0, stack=0x7f57c1fb5000,
stack_size=0x7ffc80, tls=0x7f57c27b5640} => {parent_tid=[20390]}, 88) = 20390
20387 rt_sigprocmask(SIG_SETMASK, [], NULL, 8) = 0
20387 eventfd2(0, EFD_CLOEXEC) = 8
20387 fcntl(8, F_GETFL) = 0x2 (flags O_RDWR)
20387 fcntl(8, F_SETFL, O_RDWR|O_NONBLOCK) = 0
20387 fcntl(8, F_GETFL <unfinished ...>
20390 rseq(0x7f57c27b5fe0, 0x20, 0, 0x53053053 <unfinished ...>
20387 <... fcntl resumed>) = 0x802 (flags O_RDWR|O_NONBLOCK)
20387 fcntl(8, F_SETFL, O_RDWR|O_NONBLOCK) = 0
20387 getpid() = 20387
20387 eventfd2(0, EFD_CLOEXEC) = 9
20387 fcntl(9, F_GETFL) = 0x2 (flags O_RDWR)
20390 <... rseq resumed>) = 0
20387 fcntl(9, F_SETFL, O_RDWR|O_NONBLOCK) = 0
20390 set_robust_list(0x7f57c27b5920, 24 <unfinished ...>
20387 fcntl(9, F_GETFL) = 0x802 (flags O_RDWR|O_NONBLOCK)
20390 <... set_robust_list resumed>) = 0
20387 fcntl(9, F_SETFL, O_RDWR|O_NONBLOCK) = 0
20390 rt_sigprocmask(SIG_SETMASK, [], <unfinished ...>
20387 getpid() = 20387
20390 <... rt_sigprocmask resumed>NULL, 8) = 0
20387 getpid( <unfinished ...>
20390 rt_sigprocmask(SIG_BLOCK, ~[RTMIN RT_1], <unfinished ...>
20387 <... getpid resumed>) = 20387
20390 <... rt_sigprocmask resumed>NULL, 8) = 0
20387 poll([{fd=8, events=POLLIN}], 1, 0 <unfinished ...>

```

20390 sched_getparam(20390, <unfinished ...>

20387 <... poll resumed>) = 0 (Timeout)

20390 <... sched_getparam resumed>[0]) = 0

20390 sched_getscheduler(20390 <unfinished ...>

20387 socket(AF_NETLINK, SOCK_RAW|SOCK_CLOEXEC, NETLINK_ROUTE <unfinished

...>

20390 <... sched_getscheduler resumed>) = 0 (SCHED_OTHER)

20387 <... socket resumed>) = 10

20390 sched_setscheduler(20390, SCHED_OTHER, [0] <unfinished ...>

20387 bind(10, {sa_family=AF_NETLINK, nl_pid=0, nl_groups=00000000}, 12 <unfinished ...>

20390 <... sched_setscheduler resumed>) = 0

20387 <... bind resumed>) = 0

20390 prctl(PR_SET_NAME, "ZMQbg/IO/0" <unfinished ...>

20387 getsockname(10, {sa_family=AF_NETLINK, nl_pid=20387, nl_groups=00000000}, [12])

= 0

20390 <... prctl resumed>) = 0

20387 sendto(10, [{nlmsg_len=20, nlmsg_type=RTM_GETLINK,

nlmsg_flags=NLM_F_REQUEST|NLM_F_DUMP, nlmsg_seq=1704658042, nlmsg_pid=0},

{ifi_family=AF_UNSPEC, ...}], 20, 0, {sa_family=AF_NETLINK, nl_pid=0, nl_groups=00000000}, 12

<unfinished ...>

20390 epoll_wait(7, <unfinished ...>

20387 <... sendto resumed>) = 20

20387 recvmsg(10, {msg_name={sa_family=AF_NETLINK, nl_pid=0, nl_groups=00000000},

msg_namelen=12, msg_iov=[{iov_base=[{nlmsg_len=1404, nlmsg_type=RTM_NEWLINK,

nlmsg_flags=NLM_F_MULTI, nlmsg_seq=1704658042, nlmsg_pid=20387},

{ifi_family=AF_UNSPEC, ifi_type=ARPHRD_LOOPBACK, ifi_index=if_nametoindex("lo"),

ifi_flags=IFF_UP|IFF_LOOPBACK|IFF_RUNNING|IFF_LOWER_UP, ifi_change=0}, [{nla_len=7,

nla_type=IFLA_IFNAME}, "lo"], [{nla_len=8, nla_type=IFLA_TXQLEN}, 1000], [{nla_len=5,

nla_type=IFLA_OPERSTATE}, 0], [{nla_len=5, nla_type=IFLA_LINKMODE}, 0], [{nla_len=8,

nla_type=IFLA_MTU}, 65536], [{nla_len=8, nla_type=IFLA_MIN_MTU}, 0], [{nla_len=8,

nla_type=IFLA_MAX_MTU}, 0], [{nla_len=8, nla_type=IFLA_GROUP}, 0], [{nla_len=8,

nla_type=IFLA_PROMISCUITY}, 0], [{nla_len=8, nla_type=0x3d /* IFLA_??? */},

"\x00\x00\x00\x00"], [{nla_len=8, nla_type=IFLA_NUM_TX_QUEUES}, 1], [{nla_len=8,

nla_type=IFLA_GSO_MAX_SEGS}, 65535], [{nla_len=8, nla_type=IFLA_GSO_MAX_SIZE},

65536], [{nla_len=8, nla_type=0x3a /* IFLA_??? */}, "\x00\x00\x01\x00"], [{nla_len=8, nla_type=0x3b

/* IFLA_??? */}, "\xf8\xff\x07\x00"], [{nla_len=8, nla_type=0x3c /* IFLA_??? */}, "\xff\xff\x00\x00"],

{nla_len=8, nla_type=IFLA_NUM_RX_QUEUES}, 1], [{nla_len=5, nla_type=IFLA_CARRIER}, 1],

[{nla_len=12, nla_type=IFLA_QDISC}, "noqueue"], [{nla_len=8, nla_type=IFLA_CARRIER_CHANGES}, 0], [{nla_len=8, nla_type=IFLA_CARRIER_UP_COUNT}, 0], [{nla_len=8, nla_type=IFLA_CARRIER_DOWN_COUNT}, 0], [{nla_len=5, nla_type=IFLA_PROTO_DOWN}, 0], [{nla_len=36, nla_type=IFLA_MAP}, {mem_start=0, mem_end=0, base_addr=0, irq=0, dma=0, port=0}], [{nla_len=10, nla_type=IFLA_ADDRESS}, 00:00:00:00:00:00], [{nla_len=10, nla_type=IFLA_BROADCAST}, 00:00:00:00:00:00], [{nla_len=204, nla_type=IFLA_STATS64}, {rx_packets=18620, tx_packets=18620, rx_bytes=1990342, tx_bytes=1990342, rx_errors=0, tx_errors=0, rx_dropped=0, tx_dropped=0, multicast=0, collisions=0, rx_length_errors=0, rx_over_errors=0, rx_crc_errors=0, rx_frame_errors=0, rx_fifo_errors=0, rx_missed_errors=0, tx_aborted_errors=0, tx_carrier_errors=0, tx_fifo_errors=0, tx_heartbeat_errors=0, tx_window_errors=0, rx_compressed=0, tx_compressed=0, rx_nohandler=0}], [{nla_len=100, nla_type=IFLA_STATS}, {rx_packets=18620, tx_packets=18620, rx_bytes=1990342, tx_bytes=1990342, rx_errors=0, tx_errors=0, rx_dropped=0, tx_dropped=0, multicast=0, collisions=0, rx_length_errors=0, rx_over_errors=0, rx_crc_errors=0, rx_frame_errors=0, rx_fifo_errors=0, rx_missed_errors=0, tx_aborted_errors=0, tx_carrier_errors=0, tx_fifo_errors=0, tx_heartbeat_errors=0, tx_window_errors=0, rx_compressed=0, tx_compressed=0, rx_nohandler=0}], [{nla_len=12, nla_type=IFLA_XDP}, [{nla_len=5, nla_type=IFLA_XDP_ATTACHED}, XDP_ATTACHED_NONE]], [{nla_len=804, nla_type=IFLA_AF_SPEC}, [[{nla_len=12, nla_type=AF_MCTP}, [{nla_len=8, nla_type=IFLA_MCTP_NET}, 1]], [{nla_len=140, nla_type=AF_INET}, [{nla_len=136, nla_type=IFLA_INET_CONF}, [[IPV4_DEVCONF_FORWARDING-1] = 0, [IPV4_DEVCONF_MC_FORWARDING-1] = 0, [IPV4_DEVCONF_PROXY_ARP-1] = 0, [IPV4_DEVCONF_ACCEPT_REDIRECTS-1] = 1, [IPV4_DEVCONF_SECURE_REDIRECTS-1] = 1, [IPV4_DEVCONF_SEND_REDIRECTS-1] = 1, [IPV4_DEVCONF_SHARED_MEDIA-1] = 1, [IPV4_DEVCONF_RP_FILTER-1] = 2, [IPV4_DEVCONF_ACCEPT_SOURCE_ROUTE-1] = 0, [IPV4_DEVCONF_BOOTP_RELAY-1] = 0, [IPV4_DEVCONF_LOG_MARTIANS-1] = 0, [IPV4_DEVCONF_TAG-1] = 0, [IPV4_DEVCONF_ARPFILTER-1] = 0, [IPV4_DEVCONF_MEDIUM_ID-1] = 0, [IPV4_DEVCONF_NOXFRM-1] = 1, [IPV4_DEVCONF_NOPOLICY-1] = 1, [IPV4_DEVCONF_FORCE_IGMP_VERSION-1] = 0, [IPV4_DEVCONF_ARP_ANNOUNCE-1] = 0, [IPV4_DEVCONF_ARP_IGNORE-1] = 0, [IPV4_DEVCONF_PROMOTE_SECONDARIES-1] = 1, [IPV4_DEVCONF_ARP_ACCEPT-1] = 0, [IPV4_DEVCONF_ARP_NOTIFY-1] = 0, [IPV4_DEVCONF_ACCEPT_LOCAL-1] = 0, [IPV4_DEVCONF_SRC_VMARK-1] = 0, [IPV4_DEVCONF_PROXY_ARP_PVLAN-1] = 0, [IPV4_DEVCONF_ROUTE_LOCALNET-1] = 0, [IPV4_DEVCONF_IGMPV2_UNSOLICITED_REPORT_INTERVAL-1] = 10000, [IPV4_DEVCONF_IGMPV3_UNSOLICITED_REPORT_INTERVAL-1] = 1000, [IPV4_DEVCONF_IGNORE_ROUTES_WITH_LINKDOWN-1] = 0, [IPV4_DEVCONF_DROP_UNICAST_IN_L2_MULTICAST-1] = 0, [IPV4_DEVCONF_DROP_GRATUITOUS_ARP-1] = 0, [IPV4_DEVCONF_BC_FORWARDING-1] = 0, ...]], [{nla_len=648, nla_type=AF_INET6}, [[{nla_len=8, nla_type=IFLA_INET6_FLAGS}, IF_READY], [{nla_len=20, nla_type=IFLA_INET6_CACHEINFO}, {max_reasm_len=65535, tstamp=170, reachable_time=21796, retrans_time=1000}], [{nla_len=236, nla_type=IFLA_INET6_CONF}, [[DEVCONF_FORWARDING] = 0, [DEVCONF_HOPLIMIT] = 64, [DEVCONF_MTU6] = 65536, [DEVCONF_ACCEPT_RA] = 1, [DEVCONF_ACCEPT_REDIRECTS] = 1, [DEVCONF_AUTOCONF] = 1, [DEVCONF_DAD_TRANSMITS] = 1, [DEVCONF_RTR_SOLICITS] = -1, [DEVCONF_RTR_SOLICIT_INTERVAL] = 4000, [DEVCONF_RTR_SOLICIT_DELAY] = 1000, [DEVCONF_USE_TEMPADDR] = -1, [DEVCONF_TEMP_VALID_LFT] = 604800, [DEVCONF_TEMP_PREFERRED_LFT] = 86400, [DEVCONF_REGEN_MAX_RETRY] = 3, [DEVCONF_MAX_DESYNC_FACTOR] = 600,

[DEVCONF_MAX_ADDRESSES] = 16, [DEVCONF_FORCE_MLD_VERSION] = 0,
[DEVCONF_ACCEPT_RA_DEFRTR] = 1, [DEVCONF_ACCEPT_RA_PINFO] = 1,
[DEVCONF_ACCEPT_RA_RTR_PREF] = 1, [DEVCONF_RTR_PROBE_INTERVAL] = 60000,
[DEVCONF_ACCEPT_RA_RT_INFO_MAX_PLEN] = 0, [DEVCONF_PROXY_NDP] = 0,
[DEVCONF_OPTIMISTIC_DAD] = 0, [DEVCONF_ACCEPT_SOURCE_ROUTE] = 0,
[DEVCONF_MC_FORWARDING] = 0, [DEVCONF_DISABLE_IPV6] = 0,
[DEVCONF_ACCEPT_DAD] = -1, [DEVCONF_FORCE_TLLAO] = 0,
[DEVCONF_NDISC_NOTIFY] = 0, [DEVCONF_MLDV1_UNSOLICITED_REPORT_INTERVAL] =
10000, [DEVCONF_MLDV2_UNSOLICITED_REPORT_INTERVAL] = 1000, ...]], [{nla_len=300,
nla_type=IFLA_INET6_STATS}, [[IPSTATS_MIB_NUM] = 37, [IPSTATS_MIB_INPKTS] = 6,
[IPSTATS_MIB_INOCTETS] = 432, [IPSTATS_MIB_INDELIVERS] = 6,
[IPSTATS_MIB_OUTFORWDATAGRAMS] = 0, [IPSTATS_MIB_OUTPKTS] = 6,
[IPSTATS_MIB_OUTOCTETS] = 432, [IPSTATS_MIB_INHDRERRORS] = 0,
[IPSTATS_MIB_INTOOBIGERRORS] = 0, [IPSTATS_MIB_INNOROUTES] = 0,
[IPSTATS_MIB_INADDRERRORS] = 0, [IPSTATS_MIB_INUNKNOWNPROTOS] = 0,
[IPSTATS_MIB_INTRUNCATEDPKTS] = 0, [IPSTATS_MIB_INDISCARDS] = 0,
[IPSTATS_MIB_OUTDISCARDS] = 0, [IPSTATS_MIB_OUTNOROUTES] = 0,
[IPSTATS_MIB_REASMTIMEOUT] = 0, [IPSTATS_MIB_REASMREQDS] = 0,
[IPSTATS_MIB_REASMOKS] = 0, [IPSTATS_MIB_REASMFAILS] = 0,
[IPSTATS_MIB_FRAGOKS] = 0, [IPSTATS_MIB_FRAGFAILS] = 0,
[IPSTATS_MIB_FRAGCREATES] = 0, [IPSTATS_MIB_INMCASTPKTS] = 0,
[IPSTATS_MIB_OUTMCASTPKTS] = 2, [IPSTATS_MIB_INBCASTPKTS] = 0,
[IPSTATS_MIB_OUTBCASTPKTS] = 0, [IPSTATS_MIB_INMCASTOCTETS] = 0,
[IPSTATS_MIB_OUTMCASTOCTETS] = 152, [IPSTATS_MIB_INBCASTOCTETS] = 0,
[IPSTATS_MIB_OUTBCASTOCTETS] = 0, [IPSTATS_MIB_CSUMERRORS] = 0, ...]], [{nla_len=52,
nla_type=IFLA_INET6_ICMP6STATS}, [[ICMP6_MIB_NUM] = 6, [ICMP6_MIB_INMSGs] = 2,
[ICMP6_MIB_INERRORS] = 0, [ICMP6_MIB_OUTMSGs] = 2, [ICMP6_MIB_OUTERRORS] = 0,
[ICMP6_MIB_CSUMERRORS] = 0]], [{nla_len=20, nla_type=IFLA_INET6_TOKEN},
inet_pton(AF_INET6, ":::"), [{nla_len=5, nla_type=IFLA_INET6_ADDR_GEN_MODE},
IN6_ADDR_GEN_MODE_EUI64]]], {nla_len=4, nla_type=NLA_F_NESTED|0x3e /* IFLA_???
*/}], [{nlmsg_len=1440, nlmsg_type=RTM_NEWLINK, nlmsg_flags=NLM_F_MULTI,
nlmsg_seq=1704658042, nlmsg_pid=20387}, {ifi_family=AF_UNSPEC, ifi_type=ARPHRD_ETHER,
ifi_index=if_nametoindex("enp3s0"), ifi_flags=IFF_UP|IFF_BROADCAST|IFF_MULTICAST,
ifi_change=0}, [{nla_len=11, nla_type=IFLA_IFNAME}, "enp3s0"], [{nla_len=8,
nla_type=IFLA_TXQLEN}, 1000], [{nla_len=5, nla_type=IFLA_OPERSTATE}, 2], [{nla_len=5,
nla_type=IFLA_LINKMODE}, 0], [{nla_len=8, nla_type=IFLA_MTU}, 1500], [{nla_len=8,
nla_type=IFLA_MIN_MTU}, 68], [{nla_len=8, nla_type=IFLA_MAX_MTU}, 9194], [{nla_len=8,
nla_type=IFLA_GROUP}, 0], [{nla_len=8, nla_type=IFLA_PROMISCUITY}, 0], [{nla_len=8,
nla_type=0x3d /* IFLA_??? */}, "\x00\x00\x00\x00"], [{nla_len=8,
nla_type=IFLA_NUM_TX_QUEUES}, 1], [{nla_len=8, nla_type=IFLA_GSO_MAX_SEGS}, 64],
[{nla_len=8, nla_type=IFLA_GSO_MAX_SIZE}, 64000], [{nla_len=8, nla_type=0x3a /* IFLA_??? */},
"\x00\x00\x01\x00"], [{nla_len=8, nla_type=0x3b /* IFLA_??? */}, "\x00\xfa\x00\x00"], [{nla_len=8,
nla_type=0x3c /* IFLA_??? */}, "\x40\x00\x00\x00"], [{nla_len=8,
nla_type=IFLA_NUM_RX_QUEUES}, 1], [{nla_len=5, nla_type=IFLA_CARRIER}, 0], [{nla_len=13,
nla_type=IFLA_QDISC}, "fq_codel"], [{nla_len=8, nla_type=IFLA_CARRIER_CHANGES}, 1],
[{nla_len=8, nla_type=IFLA_CARRIER_UP_COUNT}, 0], [{nla_len=8,
nla_type=IFLA_CARRIER_DOWN_COUNT}, 1], [{nla_len=5, nla_type=IFLA_PROTO_DOWN}, 0],
[{nla_len=36, nla_type=IFLA_MAP}, {mem_start=0, mem_end=0, base_addr=0, irq=0, dma=0,

port=0}], [{nla_len=10, nla_type=IFLA_ADDRESS}, 04:7c:16:31:22:f5], [{nla_len=10, nla_type=IFLA_BROADCAST}, ff:ff:ff:ff:ff:ff], [{nla_len=204, nla_type=IFLA_STATS64}, {rx_packets=0, tx_packets=0, rx_bytes=0, tx_bytes=0, rx_errors=0, tx_errors=0, rx_dropped=0, tx_dropped=0, multicast=0, collisions=0, rx_length_errors=0, rx_over_errors=0, rx_crc_errors=0, rx_frame_errors=0, rx_fifo_errors=0, rx_missed_errors=0, tx_aborted_errors=0, tx_carrier_errors=0, tx_fifo_errors=0, tx_heartbeat_errors=0, tx_window_errors=0, rx_compressed=0, tx_compressed=0, rx_nohandler=0}], [{nla_len=100, nla_type=IFLA_STATS}, {rx_packets=0, tx_packets=0, rx_bytes=0, tx_bytes=0, rx_errors=0, tx_errors=0, rx_dropped=0, tx_dropped=0, multicast=0, collisions=0, rx_length_errors=0, rx_over_errors=0, rx_crc_errors=0, rx_frame_errors=0, rx_fifo_errors=0, rx_missed_errors=0, tx_aborted_errors=0, tx_carrier_errors=0, tx_fifo_errors=0, tx_heartbeat_errors=0, tx_window_errors=0, rx_compressed=0, tx_compressed=0, rx_nohandler=0}], [{nla_len=12, nla_type=IFLA_XDP}, [{nla_len=5, nla_type=IFLA_XDP_ATTACHED}, XDP_ATTACHED_NONE]], [{nla_len=10, nla_type=IFLA_PERM_ADDRESS}, 04:7c:16:31:22:f5], [{nla_len=792, nla_type=IFLA_AF_SPEC}, [{nla_len=140, nla_type=AF_INET}, [{nla_len=136, nla_type=IFLA_INET_CONF}, [[IPV4_DEVCONF_FORWARDING-1] = 0, [IPV4_DEVCONF_MC_FORWARDING-1] = 0, [IPV4_DEVCONF_PROXY_ARP-1] = 0, [IPV4_DEVCONF_ACCEPT_REDIRECTS-1] = 1, [IPV4_DEVCONF_SECURE_REDIRECTS-1] = 1, [IPV4_DEVCONF_SEND_REDIRECTS-1] = 1, [IPV4_DEVCONF_SHARED_MEDIA-1] = 1, [IPV4_DEVCONF_RP_FILTER-1] = 2, [IPV4_DEVCONF_ACCEPT_SOURCE_ROUTE-1] = 0, [IPV4_DEVCONF_BOOTP_RELAY-1] = 0, [IPV4_DEVCONF_LOG_MARTIANS-1] = 0, [IPV4_DEVCONF_TAG-1] = 0, [IPV4_DEVCONF_ARPFILTER-1] = 0, [IPV4_DEVCONF_MEDIUM_ID-1] = 0, [IPV4_DEVCONF_NOXFRM-1] = 0, [IPV4_DEVCONF_NOPOLICY-1] = 0, [IPV4_DEVCONF_FORCE_IGMP_VERSION-1] = 0, [IPV4_DEVCONF_ARP_ANNOUNCE-1] = 0, [IPV4_DEVCONF_ARP_IGNORE-1] = 0, [IPV4_DEVCONF_PROMOTE_SECONDARIES-1] = 1, [IPV4_DEVCONF_ARP_ACCEPT-1] = 0, [IPV4_DEVCONF_ARP_NOTIFY-1] = 0, [IPV4_DEVCONF_ACCEPT_LOCAL-1] = 0, [IPV4_DEVCONF_SRC_VMARK-1] = 0, [IPV4_DEVCONF_PROXY_ARP_PVLAN-1] = 0, [IPV4_DEVCONF_ROUTE_LOCALNET-1] = 0, [IPV4_DEVCONF_IGMPV2_UNSOLICITED_REPORT_INTERVAL-1] = 10000, [IPV4_DEVCONF_IGMPV3_UNSOLICITED_REPORT_INTERVAL-1] = 1000, [IPV4_DEVCONF_IGNORE_ROUTES_WITH_LINKDOWN-1] = 0, [IPV4_DEVCONF_DROP_UNICAST_IN_L2_MULTICAST-1] = 0, [IPV4_DEVCONF_DROP_GRATUITOUS_ARP-1] = 0, [IPV4_DEVCONF_BC_FORWARDING-1] = 0, ...]], [{nla_len=648, nla_type=AF_INET6}, [{nla_len=8, nla_type=IFLA_INET6_FLAGS}, 0], [{nla_len=20, nla_type=IFLA_INET6_CACHEINFO}, {max_reasm_len=65535, tstamp=1058776, reachable_time=17116, retrans_time=1000}], [{nla_len=236, nla_type=IFLA_INET6_CONF}, [[DEVCONF_FORWARDING] = 0, [DEVCONF_HOPLIMIT] = 64, [DEVCONF_MTU6] = 1500, [DEVCONF_ACCEPT_RA] = 0, [DEVCONF_ACCEPT_REDIRECTS] = 1, [DEVCONF_AUTOCONF] = 1, [DEVCONF_DAD_TRANSMITS] = 1, [DEVCONF_RTR_SOLICITS] = -1, [DEVCONF_RTR_SOLICIT_INTERVAL] = 4000, [DEVCONF_RTR_SOLICIT_DELAY] = 1000, [DEVCONF_USE_TEMPADDR] = 0, [DEVCONF_TEMP_VALID_LFT] = 604800, [DEVCONF_TEMP_PREFERRED_LFT] = 86400, [DEVCONF_REGEN_MAX_RETRY] = 3, [DEVCONF_MAX_DESYNC_FACTOR] = 600, [DEVCONF_MAX_ADDRESSES] = 16, [DEVCONF_FORCE_MLD_VERSION] = 0, [DEVCONF_ACCEPT_RA_DEFRTR] = 1, [DEVCONF_ACCEPT_RA_PINFO] = 1, [DEVCONF_ACCEPT_RA_RTR_PREF] = 1, [DEVCONF_RTR_PROBE_INTERVAL] = 60000, [DEVCONF_ACCEPT_RA_RT_INFO_MAX_PLEN] = 0, [DEVCONF_PROXY_NDP] = 0, [DEVCONF_OPTIMISTIC_DAD] = 0, [DEVCONF_ACCEPT_SOURCE_ROUTE] = 0,

```
[DEVCONF_MC_FORWARDING] = 0, [DEVCONF_DISABLE_IPV6] = 0,  
[DEVCONF_ACCEPT_DAD] = 1, [DEVCONF_FORCE_TLLAO] = 0,  
[DEVCONF_NDISC_NOTIFY] = 0, [DEVCONF_MLDV1_UNSOLICITED_REPORT_INTERVAL] =  
10000, [DEVCONF_MLDV2_UNSOLICITED_REPORT_INTERVAL] = 1000, ...]], [{nla_len=300,  
nla_type=IFLA_INET6_STATS}, [[IPSTATS_MIB_NUM] = 37, [IPSTATS_MIB_INPKTS] = 0,  
[IPSTATS_MIB_INOCTETS] = 0, [IPSTATS_MIB_INDELIVERS] = 0,  
[IPSTATS_MIB_OUTFORWDATAGRAMS] = 0, [IPSTATS_MIB_OUTPKTS] = 0,  
[IPSTATS_MIB_OUTOCTETS] = 0, [IPSTATS_MIB_INHDRERRORS] = 0,  
[IPSTATS_MIB_INTOOBIGERRORS] = 0, [IPSTATS_MIB_INNOROUTES] = 0,  
[IPSTATS_MIB_INADDRERRORS] = 0, [IPSTATS_MIB_INUNKNOWNPROTOS] = 0,  
[IPSTATS_MIB_INTRUNCATEDPKTS] = 0, [IPSTATS_MIB_INDISCARDS] = 0,  
[IPSTATS_MIB_OUTDISCARDS] = 0, [IPSTATS_MIB_OUTNOROUTES] = 0,  
[IPSTATS_MIB_REASMTIMEOUT] = 0, [IPSTATS_MIB_REASMREQDS] = 0,  
[IPSTATS_MIB_REASMOKS] = 0, [IPSTATS_MIB_REASMFAILS] = 0,  
[IPSTATS_MIB_FRAGOKS] = 0, [IPSTATS_MIB_FRAGFAILS] = 0,  
[IPSTATS_MIB_FRAGCREATES] = 0, [IPSTATS_MIB_INMCASTPKTS] = 0,  
[IPSTATS_MIB_OUTMCASTPKTS] = 0, [IPSTATS_MIB_INBCASTPKTS] = 0,  
[IPSTATS_MIB_OUTBCASTPKTS] = 0, [IPSTATS_MIB_INMCASTOCTETS] = 0,  
[IPSTATS_MIB_OUTMCASTOCTETS] = 0, [IPSTATS_MIB_INBCASTOCTETS] = 0,  
[IPSTATS_MIB_OUTBCASTOCTETS] = 0, [IPSTATS_MIB_CSUMERRORS] = 0, ...]], [{nla_len=52,  
nla_type=IFLA_INET6_ICMP6STATS}, [[ICMP6_MIB_NUM] = 6, [ICMP6_MIB_INMSGs] = 0,  
[ICMP6_MIB_INERRORS] = 0, [ICMP6_MIB_OUTMSGs] = 0, [ICMP6_MIB_OUTERRORS] = 0,  
[ICMP6_MIB_CSUMERRORS] = 0]], [{nla_len=20, nla_type=IFLA_INET6_TOKEN},  
inet_pton(AF_INET6, ":::")] , [{nla_len=5, nla_type=IFLA_INET6_ADDR_GEN_MODE},  
IN6_ADDR_GEN_MODE_NONE]]]]], [{nla_len=17, nla_type=IFLA_PARENT_DEV_NAME},  
"0000:03:00:0", ...]], iov_len=4096}], msg_iovlen=1, msg_controllen=0, msg_flags=0}, 0) = 2844
```

```
20387 recvmsg(10, {msg_name={sa_family=AF_NETLINK, nl_pid=0, nl_groups=00000000},
```

```
...)
```

```
20387 recvmsg(10, {msg_name={sa_family=AF_NETLINK, nl_pid=0, nl_groups=00000000},  
msg_namelen=12, msg_iov=[{iov_base=[{nlmsg_len=20, nlmsg_type=NLMMSG_DONE,  
nlmsg_flags=NLM_F_MULTI, nlmsg_seq=1704658042, nlmsg_pid=20387}, 0], iov_len=4096}],  
msg_iovlen=1, msg_controllen=0, msg_flags=0}, 0) = 20
```

```
20387 sendto(10, [{nlmsg_len=20, nlmsg_type=RTM_GETADDR,  
nlmsg_flags=NLM_F_REQUEST|NLM_F_DUMP, nlmsg_seq=1704658043, nlmsg_pid=0},  
{ifa_family=AF_UNSPEC, ...}], 20, 0, {sa_family=AF_NETLINK, nl_pid=0, nl_groups=00000000},  
12) = 20
```

```
20387 recvmsg(10, {msg_name={sa_family=AF_NETLINK, nl_pid=0, nl_groups=00000000},
```

```
...)
```

```
20387 recvmsg(10, {msg_name={sa_family=AF_NETLINK, nl_pid=0, nl_groups=00000000},
```

```
...)
```

```
20387 recvmsg(10, {msg_name={sa_family=AF_NETLINK, nl_pid=0, nl_groups=00000000},  
msg_namelen=12, msg_iov=[{iov_base=[{nlmsg_len=20, nlmsg_type=NLMMSG_DONE,
```

```
nlmsg_flags=NLM_F_MULTI, nlmsg_seq=1704658043, nlmsg_pid=20387}, 0], iov_len=4096}},  
msg_iovlen=1, msg_controllen=0, msg_flags=0}, 0) = 20
```

```
20387 close(10) = 0
```

```
20387 socket(AF_INET, SOCK_STREAM|SOCK_CLOEXEC, IPPROTO_TCP) = 10
```

```
20387 setsockopt(10, SOL_SOCKET, SO_REUSEADDR, [1], 4) = 0
```

```
20387 bind(10, {sa_family=AF_INET, sin_port=htons(5555), sin_addr=inet_addr("127.0.0.1")},  
16) = 0
```

```
20387 listen(10, 100) = 0
```

```
20387 getsockname(10, {sa_family=AF_INET, sin_port=htons(5555),  
sin_addr=inet_addr("127.0.0.1")}, [128 => 16]) = 0
```

```
20387 getsockname(10, {sa_family=AF_INET, sin_port=htons(5555),  
sin_addr=inet_addr("127.0.0.1")}, [128 => 16]) = 0
```

```
20387 getpid() = 20387
```

```
20387 write(6, "\1\0\0\0\0\0\0", 8) = 8
```

```
20387 getpid( <unfinished ...>
```

```
20390 <... epoll_wait resumed>[{events=EPOLLIN, data={u32=1509037216,  
u64=94507969418400}}], 256, -1) = 1
```

```
20387 <... getpid resumed>) = 20387
```

```
20387 write(8, "\1\0\0\0\0\0\0", 8 <unfinished ...>
```

```
20390 getpid( <unfinished ...>
```

```
20387 <... write resumed>) = 8
```

```
20390 <... getpid resumed>) = 20387
```

```
20387 getpid( <unfinished ...>
```

```
20390 poll([{fd=6, events=POLLIN}], 1, 0 <unfinished ...>
```

```
20387 <... getpid resumed>) = 20387
```

```
20390 <... poll resumed>) = 1 ([{fd=6, revents=POLLIN}])
```

```
20387 poll([{fd=9, events=POLLIN}], 1, 0 <unfinished ...>
```

```
20390 getpid( <unfinished ...>
```

```
20387 <... poll resumed>) = 0 (Timeout)
```

```
20390 <... getpid resumed>) = 20387
```

```
20387 socket(AF_NETLINK, SOCK_RAW|SOCK_CLOEXEC, NETLINK_ROUTE <unfinished  
...>
```


20390 read(6, <unfinished ...>

20387 <... socket resumed> = 11

20390 <... read resumed>"1\0\0\0\0\0\0\0", 8) = 8

20387 bind(11, {sa_family=AF_NETLINK, nl_pid=0, nl_groups=00000000}, 12) = 0

20387 getsockname(11, {sa_family=AF_NETLINK, nl_pid=20387, nl_groups=00000000}, [12]) =

0

20387 sendto(11, [{nlmsg_len=20, nlmsg_type=RTM_GETLINK,

nlmsg_flags=NLM_F_REQUEST|NLM_F_DUMP, nlmsg_seq=1704658042, nlmsg_pid=0},

{ifi_family=AF_UNSPEC, ...}], 20, 0, {sa_family=AF_NETLINK, nl_pid=0, nl_groups=00000000}, 12

<unfinished ...>

20390 epoll_ctl(7, EPOLL_CTL_ADD, 10, {events=0, data={u32=3154119536,

u64=140014793001840}} <unfinished ...>

20387 <... sendto resumed> = 20

20390 <... epoll_ctl resumed> = 0

20387 recvmsg(11, <unfinished ...>

20390 epoll_ctl(7, EPOLL_CTL_MOD, 10, {events=EPOLLIN, data={u32=3154119536,

u64=140014793001840}}) = 0

20387 <... recvmsg resumed>{msg_name={sa_family=AF_NETLINK, nl_pid=0,
...)

20390 getpid(<unfinished ...>

20387 recvmsg(11, <unfinished ...>

20390 <... getpid resumed> = 20387

20387 <... recvmsg resumed>{msg_name={sa_family=AF_NETLINK, nl_pid=0,
...)

20390 poll([{fd=6, events=POLLIN}], 1, 0 <unfinished ...>

20387 recvmsg(11, <unfinished ...>

20390 <... poll resumed> = 0 (Timeout)

20387 <... recvmsg resumed>{msg_name={sa_family=AF_NETLINK, nl_pid=0,
nl_groups=00000000}, msg_namelen=12, msg_iov=[{iov_base=[{nlmsg_len=20,
nlmsg_type=NLMMSG_DONE, nlmsg_flags=NLM_F_MULTI, nlmsg_seq=1704658042,
nlmsg_pid=20387}, 0], iov_len=4096}], msg_iovlen=1, msg_controllen=0, msg_flags=0}, 0) = 20

20390 epoll_wait(7, <unfinished ...>

20387 sendto(11, [{nlmsg_len=20, nlmsg_type=RTM_GETADDR,

nlmsg_flags=NLM_F_REQUEST|NLM_F_DUMP, nlmsg_seq=1704658043, nlmsg_pid=0},

```
{ifa_family=AF_UNSPEC, ...}], 20, 0, {sa_family=AF_NETLINK, nl_pid=0, nl_groups=00000000},  
12) = 20
```

```
20387 recvmsg(11, {msg_name={sa_family=AF_NETLINK, nl_pid=0, nl_groups=00000000},  
...)
```

```
20387 recvmsg(11, {msg_name={sa_family=AF_NETLINK, nl_pid=0, nl_groups=00000000},  
...)
```

```
20387 recvmsg(11, {msg_name={sa_family=AF_NETLINK, nl_pid=0, nl_groups=00000000},  
msg_namelen=12, msg_iov=[{iov_base=[{nlmsg_len=20, nlmsg_type=NLMMSG_DONE,  
nlmsg_flags=NLM_F_MULTI, nlmsg_seq=1704658043, nlmsg_pid=20387}, 0], iov_len=4096}],  
msg_iovlen=1, msg_controllen=0, msg_flags=0}, 0) = 20
```

```
20387 close(11) = 0
```

```
20387 socket(AF_INET, SOCK_STREAM|SOCK_CLOEXEC, IPPROTO_TCP) = 11
```

```
20387 setsockopt(11, SOL_SOCKET, SO_REUSEADDR, [1], 4) = 0
```

```
20387 bind(11, {sa_family=AF_INET, sin_port=htons(5556), sin_addr=inet_addr("127.0.0.1")},  
16) = 0
```

```
20387 listen(11, 100) = 0
```

```
20387 getsockname(11, {sa_family=AF_INET, sin_port=htons(5556),  
sin_addr=inet_addr("127.0.0.1")}, [128 => 16]) = 0
```

```
20387 getsockname(11, {sa_family=AF_INET, sin_port=htons(5556),  
sin_addr=inet_addr("127.0.0.1")}, [128 => 16]) = 0
```

```
20387 getpid() = 20387
```

```
20387 write(6, "\1\0\0\0\0\0\0", 8) = 8
```

```
20390 <... epoll_wait resumed>[{events=EPOLLIN, data={u32=1509037216,  
u64=94507969418400}}], 256, -1) = 1
```

```
20387 getpid() = 20387
```

```
20390 getpid( <unfinished ...>
```

```
20387 write(9, "\1\0\0\0\0\0\0", 8 <unfinished ...>
```

```
20390 <... getpid resumed> = 20387
```

```
20387 <... write resumed> = 8
```

```
20390 poll([ {fd=6, events=POLLIN}], 1, 0) = 1 ([ {fd=6, revents=POLLIN}])
```

```
20387 newfstatat(1, "", <unfinished ...>
```

```
20390 getpid( <unfinished ...>
```

```

20387 <... newfstatat resumed>{st_mode=S_IFCHR|0620, st_rdev=makedev(0x88, 0x1), ...},
AT_EMPTY_PATH) = 0

20390 <... getpid resumed>)          = 20387

20387 write(1, "Welcome in our programm! This is"..., 56 <unfinished ...>

20390 read(6, <unfinished ...>

20387 <... write resumed>)          = 56

20390 <... read resumed>"\1\0\0\0\0\0\0", 8) = 8

20387 write(1, " - create 'id' \n", 16 <unfinished ...>

20390 epoll_ctl(7, EPOLL_CTL_ADD, 11, {events=0, data={u32=3154119568,
u64=140014793001872}} <unfinished ...>

20387 <... write resumed>)          = 16

20390 <... epoll_ctl resumed>)      = 0

20387 write(1, " - exec 'id' 'command(start/stop"..., 41 <unfinished ...>

20390 epoll_ctl(7, EPOLL_CTL_MOD, 11, {events=EPOLLIN, data={u32=3154119568,
u64=140014793001872}} <unfinished ...>

20387 <... write resumed>)          = 41

20390 <... epoll_ctl resumed>)      = 0

20387 write(1, " - heartbit 'time' (in ms) \n", 28 <unfinished ...>

20390 getpid( <unfinished ...>

20387 <... write resumed>)          = 28

20390 <... getpid resumed>)          = 20387

20387 write(1, " - draw\n", 8 <unfinished ...>

20390 poll([{fd=6, events=POLLIN}], 1, 0 <unfinished ...>

20387 <... write resumed>)          = 8

20390 <... poll resumed>)           = 0 (Timeout)

20387 write(1, "Or enter q or ^D to exit\n", 25 <unfinished ...>

20390 epoll_wait(7, <unfinished ...>

20387 <... write resumed>)          = 25

20387 write(1, "Enter you command: \n", 20) = 20

20387 write(1, " ->", 3)           = 3

20387 newfstatat(0, "", {st_mode=S_IFCHR|0620, st_rdev=makedev(0x88, 0x1), ...},

```



```

AT_EMPTY_PATH) = 0
20387 read(0, "create 2\n", 1024) = 9
20387 clone(child_stack=NULL,
flags=CLONE_CHILD_CLEARTID|CLONE_CHILD_SETTID|SIGCHLD,
child_tidptr=0x7f57c3833c90) = 20397
20397 set_robust_list(0x7f57c3833ca0, 24 <unfinished ...>
20387 write(1, "Ok: 20397\n", 10 <unfinished ...>
20397 <... set_robust_list resumed>) = 0
20387 <... write resumed> = 10
20387 write(1, "->", 3) = 3
20387 read(0, <unfinished ...>
20397 execve("./node", [ "./node", "2"], 0x7ffe4ad488a8 /* 56 vars */) = 0
20397 arch_prctl(0x3001 /* ARCH_??? */, 0x7ffd7f3e2270) = -1 EINVAL (Invalid argument)
20397 access("/etc/ld.so.preload", R_OK) = -1 ENOENT (No such file or directory)
20397 openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3
20397 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=81715, ...}, AT_EMPTY_PATH) = 0
20397 close(3) = 0
20397 openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libzmq.so.5", O_RDONLY|O_CLOEXEC) =

```

3

```

20397 read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\240\233\1\0\0\0\0\0"..., 832) = 832
20397 newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=634936, ...}, AT_EMPTY_PATH) = 0
20397 close(3) = 0

```

...Где фулл? А фулл лежит в логе...

```

20389 poll([{fd=4, events=POLLIN}], 1, 0 <unfinished ...>
20387 write(6, "\1\0\0\0\0\0\0", 8 <unfinished ...>
20389 <... poll resumed> = 0 (Timeout)
20387 <... write resumed> = 8
20390 <... epoll_wait resumed>[{events=EPOLLIN, data={u32=1509037216,
u64=94507969418400}}], 256, -1) = 1

```

20387 futex(0x7f57c27b5910, FUTEX_WAIT_BITSET|FUTEX_CLOCK_REALTIME, 20390, NULL, FUTEX_BITSET_MATCH_ANY <unfinished ...>

20389 rt_sigprocmask(SIG_BLOCK, ~[RT_1], <unfinished ...>

20390 getpid(<unfinished ...>

20389 <... rt_sigprocmask resumed>NULL, 8) = 0

20390 <... getpid resumed> = 20387

20389 madvise(0x7f57c27b6000, 8368128, MADV_DONTNEED <unfinished ...>

20390 poll([{fd=6, events=POLLIN}], 1, 0 <unfinished ...>

20389 <... madvise resumed> = 0

20390 <... poll resumed> = 1 ([{fd=6, revents=POLLIN}])

20389 exit(0 <unfinished ...>

20390 getpid(<unfinished ...>

20389 <... exit resumed> = ?

20390 <... getpid resumed> = 20387

20390 read(6, <unfinished ...>

20389 +++ exited with 0 +++

20390 <... read resumed>"\1\0\0\0\0\0\0", 8) = 8

20390 epoll_ctl(7, EPOLL_CTL_DEL, 6, 0x55f459f214a4) = 0

20390 getpid() = 20387

20390 poll([{fd=6, events=POLLIN}], 1, 0) = 0 (Timeout)

20390 rt_sigprocmask(SIG_BLOCK, ~[RT_1], NULL, 8) = 0

20390 madvise(0x7f57c1fb5000, 8368128, MADV_DONTNEED) = 0

20390 exit(0) = ?

20387 <... futex resumed> = 0

20390 +++ exited with 0 +++

20387 close(7) = 0

20387 close(6) = 0

20387 close(5) = 0

20387 close(4) = 0

20387 close(3) = 0

20387 lseek(0, -1, SEEK_CUR) = -1 ESPIPE (Illegal seek)

20387 exit_group(0) = ?

20387 +++ exited with 0 +++

20399 <... epoll_wait resumed> <unfinished ...>) = ?

20398 <... epoll_wait resumed> <unfinished ...>) = ?

20397 <... poll resumed> <unfinished ...>) = ?

20399 +++ killed by SIGKILL +++

20398 +++ killed by SIGKILL +++

20404 <... epoll_wait resumed> <unfinished ...>) = ?

20397 +++ killed by SIGKILL +++

20403 <... epoll_wait resumed> <unfinished ...>) = ?

20404 +++ killed by SIGKILL +++

20402 <... poll resumed> <unfinished ...>) = ?

20403 +++ killed by SIGKILL +++

20402 +++ killed by SIGKILL +++

Протокол работы программы

Тестирование:

Вывод