Московский Авиационный Институт

(Национальный Исследовательский Университет)

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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Оценка: _____

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Постановка задачи

Вариант 6.

Необходимо продемонстрировать ключевые системные вызовы, которые в них используются и то, что их использование соответствует варианту ЛР.

Общий метод и алгоритм решения

Strace – удобный инструмент для диагностики и отладки. Она перехватывает и записывает системные вызовы, которые использует процесс. Каждая строчка в выводе содержит название системного вызова вместе с его аргументами и возвращаемым значением.

-E var=val

--env=var=val

    Запустить команду со значением var=val в списке переменных окружения

-p pid

    --attach=pid

    Прикрепить команду к процессу с ID pid и начать отслеживать его

-f

    --follow-forks

    Отслеживать дочерние процессы, которые будут созданы в результате fork(2), vfork(2) и clone(2) системных вызовов

Вывод в ЛР 1:

```
[pid  8800] mprotect(0x7fedc2287000, 1576960, PROT_NONE <unfinished ...>
[pid  8799] <... mmap resumed>)         = 0x7fc547236000
[pid  8800] <... mprotect resumed>)     = 0
[pid  8799] mprotect(0x7fc5472d0000, 1576960, PROT_NONE <unfinished ...>
[pid  8800] mmap(0x7fedc2287000, 1118208, PROT_READ|PROT_EXEC,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 4, 0x9a000 <unfinished ...>
[pid  8799] <... mprotect resumed>)     = 0
[pid  8800] <... mmap resumed>)         = 0x7fedc2287000
[pid  8799] mmap(0x7fc5472d0000, 1118208, PROT_READ|PROT_EXEC,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x9a000 <unfinished ...>
[pid  8800] mmap(0x7fedc2398000, 454656, PROT_READ, MAP_PRI-
VATE|MAP_FIXED|MAP_DENYWRITE, 4,
0x1ab000 <unfinished ...>
[pid  8799] <... mmap resumed>)         = 0x7fc5472d0000
[pid  8800] <... mmap resumed>)         = 0x7fedc2398000
[pid  8799] mmap(0x7fc5473e1000, 454656, PROT_READ, MAP_PRI-
VATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x1ab000 <unfinished ...>
[pid  8800] mmap(0x7fedc2408000, 57344, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 4, 0x21a000 <unfinished ...>
[pid  8799] <... mmap resumed>)         = 0x7fc5473e1000
[pid  8800] <... mmap resumed>)         = 0x7fedc2408000
```

```
[pid  8799] mmap(0x7fc547451000, 57344, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x21a000 <unfinished ...>
[pid  8800] mmap(0x7fedc2416000, 10432, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0 <unfinished ...>
[pid  8799] <... mmap resumed>)         = 0x7fc547451000
[pid  8800] <... mmap resumed>)         = 0x7fedc2416000
[pid  8799] mmap(0x7fc54745f000, 10432, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0 <unfinished ...>
[pid  8800] close(4 <unfinished ...>
[pid  8799] <... mmap resumed>)         = 0x7fc54745f000
[pid  8800] <... close resumed>)        = 0
[pid  8799] close(3 <unfinished ...>
[pid  8800] openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libc.so.6",
O_RDONLY|O_CLOEXEC <unfinished
...>
[pid  8799] <... close resumed>)        = 0
[pid  8800] <... openat resumed>)       = 4
[pid  8799] openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libc.so.6",
O_RDONLY|O_CLOEXEC <unfinished
...>
[pid  8800] read(4,  <unfinished ...>
[pid  8799] <... openat resumed>)       = 3
[pid  8800] <... read
re-
sumed>"\177ELF\2\1\1\3\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0P\237\2\0\0\0\0\0"...,
832) = 832
[pid  8799] read(3,  <unfinished ...>

[pid  8800] pread64(4,  <unfinished ...>
[pid  8799] <... read
re-
sumed>"\177ELF\2\1\1\3\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0P\237\2\0\0\0\0\0"...,
832) = 832
[pid  8800] <... pread64
resumed>"\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
[pid  8799] pread64(3,  <unfinished ...>
[pid  8800] 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\0"..., 48,
848) = 48
[pid  8799] <... pread64
resumed>"\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
[pid  8800] pread64(4,  <unfinished ...>
[pid  8799] pread64(3,  <unfinished ...>
[pid  8800] <... pread64
re-
sumed>"\4\0\0\0\24\0\0\0\3\0\0\0GNU\0i8\235HZ\227\223\333\350s\360\352,\223
\340."..., 68, 896) = 68
[pid  8799] <... pread64 resumed>"\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\0"..., 48, 848) = 48
[pid  8800] newfstatat(4, "",  <unfinished ...>
[pid  8799] pread64(3,  <unfinished ...>
[pid  8800] <... newfstatat resumed>{st_mode=S_IFREG|0644, st_size=2216304,
...}, AT_EMPTY_PATH)
= 0
[pid  8799] <... pread64
re-
sumed>"\4\0\0\0\24\0\0\0\3\0\0\0GNU\0i8\235HZ\227\223\333\350s\360\352,\223
```

```
\340."..., 68, 896) = 68
[pid  8800] pread64(4,  <unfinished ...>
[pid  8799] newfstatat(3, "",  <unfinished ...>
[pid  8800] <... pread64
resumed>"\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
[pid  8799] <... newfstatat resumed>{st_mode=S_IFREG|0644, st_size=2216304,
...}, AT_EMPTY_PATH)
= 0
[pid  8800] mmap(NULL, 2260560, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 4, 0
<unfinished ...>
[pid  8799] pread64(3,  <unfinished ...>
[pid  8800] <... mmap resumed>)          = 0x7fedc1fc5000
[pid  8799] <... pread64
resumed>"\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
[pid  8800] mmap(0x7fedc1fed000, 1658880, PROT_READ|PROT_EXEC,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 4, 0x28000 <unfinished ...>
[pid  8799] mmap(NULL, 2260560, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0
<unfinished ...>
[pid  8800] <... mmap resumed>)          = 0x7fedc1fed000
[pid  8799] <... mmap resumed>)          = 0x7fc54700e000
[pid  8800] mmap(0x7fedc2182000, 360448, PROT_READ, MAP_PRI-
VATE|MAP_FIXED|MAP_DENYWRITE, 4,
0x1bd000 <unfinished ...>
[pid  8799] mmap(0x7fc547036000, 1658880, PROT_READ|PROT_EXEC,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x28000 <unfinished ...>
[pid  8800] <... mmap resumed>)          = 0x7fedc2182000
[pid  8799] <... mmap resumed>)          = 0x7fc547036000

[pid  8800] mmap(0x7fedc21da000, 24576, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 4, 0x214000 <unfinished ...>
[pid  8799] mmap(0x7fc5471cb000, 360448, PROT_READ, MAP_PRI-
VATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x1bd000 <unfinished ...>
[pid  8800] <... mmap resumed>)          = 0x7fedc21da000
[pid  8799] <... mmap resumed>)          = 0x7fc5471cb000
[pid  8800] mmap(0x7fedc21e0000, 52816, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0 <unfinished ...>
[pid  8799] mmap(0x7fc547223000, 24576, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x214000 <unfinished ...>
[pid  8800] <... mmap resumed>)          = 0x7fedc21e0000
[pid  8799] <... mmap resumed>)          = 0x7fc547223000
[pid  8800] close(4 <unfinished ...>
[pid  8799] mmap(0x7fc547229000, 52816, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0 <unfinished ...>
[pid  8800] <... close resumed>)         = 0
[pid  8799] <... mmap resumed>)          = 0x7fc547229000
[pid  8800] openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libm.so.6",
O_RDONLY|O_CLOEXEC <unfinished
...>
[pid  8799] close(3 <unfinished ...>
[pid  8800] <... openat resumed>)        = 4
[pid  8799] <... close resumed>)         = 0
[pid  8800] read(4,  <unfinished ...>
[pid  8799] openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libm.so.6",
O_RDONLY|O_CLOEXEC <unfinished
...>
[pid  8800] <... read
```

```
re-
sumed>"\177ELF\2\1\1\3\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
[pid  8799] <... openat resumed>)        = 3
[pid  8800] newfstatat(4, "",  <unfinished ...>
[pid  8799] read(3,  <unfinished ...>
[pid  8800] <... newfstatat resumed>{st_mode=S_IFREG|0644, st_size=940560,
...}, AT_EMPTY_PATH)
= 0
[pid  8799] <... read
re-
sumed>"\177ELF\2\1\1\3\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
[pid  8800] mmap(NULL, 942344, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 4, 0
<unfinished ...>
[pid  8799] newfstatat(3, "",  <unfinished ...>
[pid  8800] <... mmap resumed>)          = 0x7fedc1ede000
[pid  8799] <... newfstatat resumed>{st_mode=S_IFREG|0644, st_size=940560,
...}, AT_EMPTY_PATH)
= 0
[pid  8800] mmap(0x7fedc1eec000, 507904, PROT_READ|PROT_EXEC,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 4, 0xe000 <unfinished ...>
[pid  8799] mmap(NULL, 942344, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0
<unfinished ...>
[pid  8800] <... mmap resumed>)          = 0x7fedc1eec000

[pid  8799] <... mmap resumed>)          = 0x7fc546f27000
[pid  8800] mmap(0x7fedc1f68000, 372736, PROT_READ, MAP_PRI-
VATE|MAP_FIXED|MAP_DENYWRITE, 4,
0x8a000 <unfinished ...>
[pid  8799] mmap(0x7fc546f35000, 507904, PROT_READ|PROT_EXEC,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0xe000 <unfinished ...>
[pid  8800] <... mmap resumed>)          = 0x7fedc1f68000
[pid  8799] <... mmap resumed>)          = 0x7fc546f35000
[pid  8800] mmap(0x7fedc1fc3000, 8192, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 4, 0xe4000 <unfinished ...>
[pid  8799] mmap(0x7fc546fb1000, 372736, PROT_READ, MAP_PRI-
VATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x8a000 <unfinished ...>
[pid  8800] <... mmap resumed>)          = 0x7fedc1fc3000
[pid  8799] <... mmap resumed>)          = 0x7fc546fb1000
[pid  8800] close(4 <unfinished ...>
[pid  8799] mmap(0x7fc54700c000, 8192, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0xe4000 <unfinished ...>
[pid  8800] <... close resumed>)         = 0
[pid  8799] <... mmap resumed>)          = 0x7fc54700c000
[pid  8800] openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libgcc_s.so.1",
O_RDONLY|O_CLOEXEC
<unfinished ...>
[pid  8799] close(3 <unfinished ...>
[pid  8800] <... openat resumed>)        = 4
[pid  8799] <... close resumed>)         = 0
[pid  8800] read(4,  <unfinished ...>
[pid  8799] openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libgcc_s.so.1",
O_RDONLY|O_CLOEXEC
<unfinished ...>
[pid  8800] <... read
re-
sumed>"\177ELF\2\1\1\0\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
[pid  8799] <... openat resumed>)        = 3
[pid  8800] newfstatat(4, "",  <unfinished ...>
[pid  8799] read(3,  <unfinished ...>
[pid  8800] <... newfstatat resumed>{st_mode=S_IFREG|0644, st_size=125488,
...}, AT_EMPTY_PATH)
= 0
[pid  8799] <... read
re-
sumed>"\177ELF\2\1\1\0\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0"...,
832) = 832
[pid  8800] mmap(NULL, 127720, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 4, 0
<unfinished ...>
[pid  8799] newfstatat(3, "",  <unfinished ...>
[pid  8800] <... mmap resumed>)          = 0x7fedc1ebe000
[pid  8799] <... newfstatat resumed>{st_mode=S_IFREG|0644, st_size=125488,
...}, AT_EMPTY_PATH)
= 0
[pid  8800] mmap(0x7fedc1ec1000, 94208, PROT_READ|PROT_EXEC,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 4, 0x3000 <unfinished ...>
[pid  8799] mmap(NULL, 127720, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0
<unfinished ...>

[pid  8800] <... mmap resumed>)          = 0x7fedc1ec1000
[pid  8799] <... mmap resumed>)          = 0x7fc546f07000
[pid  8800] mmap(0x7fedc1ed8000, 16384, PROT_READ, MAP_PRI-
VATE|MAP_FIXED|MAP_DENYWRITE, 4,
0x1a000 <unfinished ...>
[pid  8799] mmap(0x7fc546f0a000, 94208, PROT_READ|PROT_EXEC,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x3000 <unfinished ...>
[pid  8800] <... mmap resumed>)          = 0x7fedc1ed8000
[pid  8799] <... mmap resumed>)          = 0x7fc546f0a000
[pid  8800] mmap(0x7fedc1edc000, 8192, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 4, 0x1d000 <unfinished ...>
[pid  8799] mmap(0x7fc546f21000, 16384, PROT_READ, MAP_PRI-
VATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x1a000 <unfinished ...>
[pid  8800] <... mmap resumed>)          = 0x7fedc1edc000
[pid  8799] <... mmap resumed>)          = 0x7fc546f21000
[pid  8800] close(4 <unfinished ...>
[pid  8799] mmap(0x7fc546f25000, 8192, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1d000 <unfinished ...>
[pid  8800] <... close resumed>)         = 0
[pid  8799] <... mmap resumed>)          = 0x7fc546f25000
[pid  8800] mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONY-
MOUS, -1, 0 <unfinished
...>
[pid  8799] close(3 <unfinished ...>
[pid  8800] <... mmap resumed>)          = 0x7fedc1ebc000
[pid  8799] <... close resumed>)         = 0
[pid  8800] arch_prctl(ARCH_SET_FS, 0x7fedc1ebd3c0 <unfinished ...>
[pid  8799] mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONY-
MOUS, -1, 0 <unfinished
...>
[pid  8800] <... arch_prctl resumed>)    = 0
[pid  8799] <... mmap resumed>)          = 0x7fc546f05000
[pid  8800] set_tid_address(0x7fedc1ebd690 <unfinished ...>
[pid  8799] arch_prctl(ARCH_SET_FS, 0x7fc546f063c0 <unfinished ...>
[pid  8800] <... set_tid_address resumed>) = 8800
```

```
[pid  8799] <... arch_prctl resumed>)    = 0
[pid  8800] set_robust_list(0x7fedc1ebd6a0, 24 <unfinished ...>
[pid  8799] set_tid_address(0x7fc546f06690 <unfinished ...>
[pid  8800] <... set_robust_list resumed>) = 0
[pid  8799] <... set_tid_address resumed>) = 8799
[pid  8800] rseq(0x7fedc1ebdd60, 0x20, 0, 0x53053053 <unfinished ...>
[pid  8799] set_robust_list(0x7fc546f066a0, 24 <unfinished ...>
[pid  8800] <... rseq resumed>)          = 0
[pid  8799] <... set_robust_list resumed>) = 0

[pid  8800] mprotect(0x7fedc21da000, 16384, PROT_READ <unfinished ...>
[pid  8799] rseq(0x7fc546f06d60, 0x20, 0, 0x53053053 <unfinished ...>
[pid  8800] <... mprotect resumed>)      = 0
[pid  8799] <... rseq resumed>)          = 0
[pid  8800] mprotect(0x7fedc1edc000, 4096, PROT_READ <unfinished ...>
[pid  8799] mprotect(0x7fc547223000, 16384, PROT_READ <unfinished ...>
[pid  8800] <... mprotect resumed>)      = 0
[pid  8799] <... mprotect resumed>)      = 0
[pid  8800] mprotect(0x7fedc1fc3000, 4096, PROT_READ <unfinished ...>
[pid  8799] mprotect(0x7fc546f25000, 4096, PROT_READ <unfinished ...>
[pid  8800] <... mprotect resumed>)      = 0
[pid  8799] <... mprotect resumed>)      = 0
[pid  8799] mprotect(0x7fc54700c000, 4096, PROT_READ <unfinished ...>
[pid  8800] mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONY-
MOUS, -1, 0 <unfinished
...>
[pid  8799] <... mprotect resumed>)      = 0
[pid  8800] <... mmap resumed>)          = 0x7fedc1eba000
[pid  8799] mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONY-
MOUS, -1, 0) =
0x7fc546f03000
[pid  8800] mprotect(0x7fedc2408000, 45056, PROT_READ) = 0
[pid  8799] mprotect(0x7fc547451000, 45056, PROT_READ <unfinished ...>
[pid  8800] mprotect(0x55bb993f8000, 4096, PROT_READ <unfinished ...>
[pid  8799] <... mprotect resumed>)      = 0
[pid  8800] <... mprotect resumed>)      = 0
[pid  8799] mprotect(0x55eb2640c000, 4096, PROT_READ <unfinished ...>
[pid  8800] mprotect(0x7fedc2458000, 8192, PROT_READ <unfinished ...>
[pid  8799] <... mprotect resumed>)      = 0
[pid  8800] <... mprotect resumed>)      = 0
[pid  8799] mprotect(0x7fc5474a1000, 8192, PROT_READ <unfinished ...>
[pid  8800] prlimit64(0, RLIMIT_STACK, NULL,  <unfinished ...>
[pid  8799] <... mprotect resumed>)      = 0
[pid  8800] <... prlimit64 resumed>{rlim_cur=8192*1024, rlim_max=RLIM64_IN-
FINITY}) = 0
[pid  8799] prlimit64(0, RLIMIT_STACK, NULL,  <unfinished ...>
[pid  8800] munmap(0x7fedc2419000, 18023 <unfinished ...>
[pid  8799] <... prlimit64 resumed>{rlim_cur=8192*1024, rlim_max=RLIM64_IN-
FINITY}) = 0
[pid  8800] <... munmap resumed>)        = 0
[pid  8799] munmap(0x7fc547462000, 18023 <unfinished ...>
[pid  8800] getrandom( <unfinished ...>

[pid  8799] <... munmap resumed>)        = 0
[pid  8800] <... getrandom resumed>"\x37\x87\x0c\xa7\x1e\xb0\x4b\x66", 8,
GRND_NONBLOCK) = 8
[pid  8799] getrandom( <unfinished ...>
[pid  8800] brk(NULL <unfinished ...>
```

```
[pid  8799] <... getrandom resumed>"\x15\xfa\xec\x38\x5a\xf7\x2a\xd0", 8,
GRND_NONBLOCK) = 8
[pid  8800] <... brk resumed>)          = 0x55bb9b29d000
[pid  8799] brk(NULL <unfinished ...>
[pid  8800] brk(0x55bb9b2be000 <unfinished ...>
[pid  8799] <... brk resumed>)          = 0x55eb27ff6000
[pid  8800] <... brk resumed>)          = 0x55bb9b2be000
[pid  8799] brk(0x55eb28017000 <unfinished ...>
[pid  8800] futex(0x7fedc241677c, FUTEX_WAKE_PRIVATE, 2147483647 <unfin-
ished ...>
[pid  8799] <... brk resumed>)          = 0x55eb28017000
[pid  8800] <... futex resumed>)        = 0
[pid  8799] futex(0x7fc54745f77c, FUTEX_WAKE_PRIVATE, 2147483647 <unfin-
ished ...>
[pid  8800] read(0,  <unfinished ...>
[pid  8799] <... futex resumed>)        = 0
[pid  8799] read(0, hello
 <unfinished ...>
[pid  8798] <... read resumed>"hello\n", 1024) = 6
[pid  8798] write(4, "h", 1)            = 1
[pid  8800] <... read resumed>"h", 1)   = 1
[pid  8798] read(5,  <unfinished ...>
[pid  8800] write(1, "h", 1)            = 1
[pid  8799] <... read resumed>"h", 1)   = 1
[pid  8800] read(0,  <unfinished ...>
[pid  8799] write(1, "H", 1)            = 1
[pid  8798] <... read resumed>"H", 1)   = 1
[pid  8799] read(0,  <unfinished ...>
[pid  8798] newfstatat(1, "", {st_mode=S_IFCHR|0620, st_rdev=makedev(0x88,
0x5), ...},
AT_EMPTY_PATH) = 0
[pid  8798] write(4, "e", 1)            = 1
[pid  8800] <... read resumed>"e", 1)   = 1
[pid  8798] read(5,  <unfinished ...>
[pid  8800] write(1, "e", 1)            = 1
[pid  8799] <... read resumed>"e", 1)   = 1
[pid  8800] read(0,  <unfinished ...>
[pid  8799] write(1, "E", 1 <unfinished ...>

[pid  8798] <... read resumed>"E", 1)   = 1
[pid  8799] <... write resumed>)        = 1
[pid  8798] write(4, "l", 1 <unfinished ...>
[pid  8799] read(0,  <unfinished ...>
[pid  8798] <... write resumed>)        = 1
[pid  8800] <... read resumed>"l", 1)   = 1
[pid  8798] read(5,  <unfinished ...>
[pid  8800] write(1, "l", 1)            = 1
[pid  8799] <... read resumed>"l", 1)   = 1
[pid  8800] read(0,  <unfinished ...>
[pid  8799] write(1, "L", 1 <unfinished ...>
[pid  8798] <... read resumed>"L", 1)   = 1
[pid  8799] <... write resumed>)        = 1
[pid  8798] write(4, "l", 1 <unfinished ...>
[pid  8799] read(0,  <unfinished ...>
[pid  8798] <... write resumed>)        = 1
[pid  8800] <... read resumed>"l", 1)   = 1
[pid  8798] read(5,  <unfinished ...>
[pid  8800] write(1, "l", 1)            = 1
[pid  8799] <... read resumed>"l", 1)   = 1
```

```
[pid  8800] read(0,  <unfinished ...>
[pid  8799] write(1, "L", 1 <unfinished ...>
[pid  8798] <... read resumed>"L", 1)    = 1
[pid  8799] <... write resumed>)         = 1
[pid  8798] write(4, "o", 1 <unfinished ...>
[pid  8799] read(0,  <unfinished ...>
[pid  8798] <... write resumed>)         = 1
[pid  8800] <... read resumed>"o", 1)    = 1
[pid  8798] read(5,  <unfinished ...>
[pid  8800] write(1, "o", 1)             = 1
[pid  8799] <... read resumed>"o", 1)    = 1
[pid  8800] read(0,  <unfinished ...>
[pid  8799] write(1, "O", 1 <unfinished ...>
[pid  8798] <... read resumed>"O", 1)    = 1
[pid  8799] <... write resumed>)         = 1
[pid  8798] write(4, "\n", 1 <unfinished ...>
[pid  8799] read(0,  <unfinished ...>

[pid  8798] <... write resumed>)         = 1
[pid  8800] <... read resumed>"\n", 1)   = 1
[pid  8798] read(5,  <unfinished ...>
[pid  8800] write(1, "\n", 1)            = 1
[pid  8799] <... read resumed>"\n", 1)   = 1
[pid  8800] read(0,  <unfinished ...>
[pid  8799] write(1, "\n", 1 <unfinished ...>
[pid  8798] <... read resumed>"\n", 1)   = 1
[pid  8799] <... write resumed>)         = 1
[pid  8798] write(1, "HELLO\n", 6 <unfinished ...>
HELLO
[pid  8799] read(0,  <unfinished ...>
[pid  8798] <... write resumed>)         = 6
[pid  8798] read(0, "", 1024)            = 0
[pid  8798] close(4)                     = 0
[pid  8800] <... read resumed>"", 1)     = 0
[pid  8798] close(5 <unfinished ...>
[pid  8800] write(1, "\n", 1 <unfinished ...>
[pid  8798] <... close resumed>)         = 0
[pid  8800] <... write resumed>)         = 1
[pid  8800] read(0,  <unfinished ...>
[pid  8799] <... read resumed>"\n", 1)   = 1
[pid  8798] exit_group(0 <unfinished ...>
[pid  8800] <... read resumed>"", 1)     = 0
[pid  8798] <... exit_group resumed>)    = ?
[pid  8799] write(1, "\n", 1 <unfinished ...>
[pid  8800] write(1, "\n", 1 <unfinished ...>
[pid  8799] <... write resumed>)         = -1 EPIPE (Broken pipe)
[pid  8798] +++ exited with 0 +++
[pid  8800] <... write resumed>)         = 1
[pid  8799] --- SIGPIPE {si_signo=SIGPIPE, si_code=SI_USER, si_pid=8799,
si_uid=1000} ---
[pid  8800] read(0, "", 1)               = 0
[pid  8800] write(1, "\n", 1)            = 1
[pid  8799] +++ killed by SIGPIPE +++
read(0, "", 1)                           = 0
write(1, "\n", 1)                        = -1 EPIPE (Broken pipe)
--- SIGPIPE {si_signo=SIGPIPE, si_code=SI_USER, si_pid=8800, si_uid=1000} -
--
```

+++ killed by SIGPIPE +++

Вывод в ЛР 2:

execve("./lab02_exe", ["./lab02_exe", "2"], 0x7ffe2ef2cd50 /* 60 vars */) = 0

brk(NULL)   = 0x55d36770e000

arch_prctl(0x3001 /* ARCH_??? */, 0x7ffc04b6c520) = -1 EINVAL (Недопустимый аргумент)

mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) =
0x7fdc0dc2d000

access("/etc/ld.so.preload", R_OK)   = -1 ENOENT (Нет такого файла или каталога)

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

newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=75015, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 75015, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7fdc0dc1a000

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\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=2260296, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 2275520, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7fdc0d9ee000

mprotect(0x7fdc0da88000, 1576960, PROT_NONE) = 0

mmap(0x7fdc0da88000, 1118208, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x9a000)

= 0x7fdc0da88000

mmap(0x7fdc0db99000, 454656, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x1ab000) =

0x7fdc0db99000

mmap(0x7fdc0dc09000, 57344, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x21a000)

= 0x7fdc0dc09000

mmap(0x7fdc0dc17000, 10432, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS,
-1, 0) =

0x7fdc0dc17000

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\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=125488, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 127720, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7fdc0d9ce000

```
mmap(0x7fdc0d9d1000, 94208, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x3000) =

0x7fdc0d9d1000

mmap(0x7fdc0d9e8000, 16384, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1a000)
=

0x7fdc0d9e8000

mmap(0x7fdc0d9ec000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x1d000) =

0x7fdc0d9ec000

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\0\3\0>\0\1\0\0\0P\237\2\0\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\0"..., 48,
848) = 48

pread64(3,
"\4\0\0\0\24\0\0\0\3\0\0\0GNU\0\244;\374\204(\337f#\315I\214\234\f\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) = 0x7fdc0d7a6000

mmap(0x7fdc0d7ce000, 1658880, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x28000)

= 0x7fdc0d7ce000

mmap(0x7fdc0d963000, 360448, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x1bd000) =

0x7fdc0d963000

mmap(0x7fdc0d9bb000, 24576, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x214000)

= 0x7fdc0d9bb000

mmap(0x7fdc0d9c1000, 52816, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS,
-1, 0) =

0x7fdc0d9c1000

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\0\3\0>\0\1\0\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) = 0x7fdc0d6bf000

mmap(0x7fdc0d6cd000, 507904, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0xe000) =

0x7fdc0d6cd000

mmap(0x7fdc0d749000, 372736, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x8a000) =

0x7fdc0d749000

mmap(0x7fdc0d7a4000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0xe4000) =

0x7fdc0d7a4000

close(3)                              = 0

mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) =
0x7fdc0d6bd000

arch_prctl(ARCH_SET_FS, 0x7fdc0d6be3c0) = 0

set_tid_address(0x7fdc0d6be690)        = 20093

set_robust_list(0x7fdc0d6be6a0, 24)    = 0

rseq(0x7fdc0d6bed60, 0x20, 0, 0x53053053) = 0

mprotect(0x7fdc0d9bb000, 16384, PROT_READ) = 0

mprotect(0x7fdc0d7a4000, 4096, PROT_READ) = 0

mprotect(0x7fdc0d9ec000, 4096, PROT_READ) = 0

mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) =
0x7fdc0d6bb000

mprotect(0x7fdc0dc09000, 45056, PROT_READ) = 0

mprotect(0x55d366206000, 4096, PROT_READ) = 0

mprotect(0x7fdc0dc67000, 8192, PROT_READ) = 0

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

munmap(0x7fdc0dc1a000, 75015)          = 0

getrandom("\x55\x9a\xa1\xc2\xd2\x35\xe5\xe7", 8, GRND_NONBLOCK) = 8

brk(NULL)                              = 0x55d36770e000

brk(0x55d36772f000)                    = 0x55d36772f000

futex(0x7fdc0dc1777c, FUTEX_WAKE_PRIVATE, 2147483647) = 0

newfstatat(1, "", {st_mode=S_IFCHR|0620, st_rdev=makedev(0x88, 0), ...}, AT_EMPTY_PATH)
= 0
```

```
write(1, "Enter the number of elements: ", 30Enter the number of elements: ) = 30

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, "Fill array: ", 12Fill array: )            = 12

read(0, 5 1 4 3 2

"5 1 4 3 2\n", 1024)            = 10

rt_sigaction(SIGRT_1, {sa_handler=0x7fdc0d837870, sa_mask=[],
sa_flags=SA_RESTORER|SA_ONSTACK|

SA_RESTART|SA_SIGINFO, sa_restorer=0x7fdc0d7e8520}, 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) =
0x7fdc0ceba000

mprotect(0x7fdc0cebb000, 8388608, PROT_READ|PROT_WRITE) = 0

rt_sigprocmask(SIG_BLOCK, ~[], [], 8)   = 0

clone3({flags=CLONE_VM|CLONE_FS|CLONE_FILES|CLONE_SIGHAND|CLONE_THREAD|CLONE_SYSVSEM|CL
ONE_SETTLS|

CLONE_PARENT_SETTID|CLONE_CHILD_CLEARTID, child_tid=0x7fdc0d6ba910,
parent_tid=0x7fdc0d6ba910,

exit_signal=0, stack=0x7fdc0ceba000, stack_size=0x7fff00, tls=0x7fdc0d6ba640}strace:
Process 20112

attached

 => {parent_tid=[20112]}, 88) = 20112

[pid 20093] rt_sigprocmask(SIG_SETMASK, [], NULL, 8) = 0

[pid 20112] rseq(0x7fdc0d6bafe0, 0x20, 0, 0x53053053 <unfinished ...>

[pid 20093] mmap(NULL, 8392704, PROT_NONE, MAP_PRIVATE|MAP_ANONYMOUS|MAP_STACK, -1, 0

<unfinished ...>

[pid 20112] <... rseq resumed>)         = 0

[pid 20093] <... mmap resumed>)         = 0x7fdc0c6b9000

[pid 20093] mprotect(0x7fdc0c6ba000, 8388608, PROT_READ|PROT_WRITE <unfinished ...>

[pid 20112] set_robust_list(0x7fdc0d6ba920, 24 <unfinished ...>

[pid 20093] <... mprotect resumed>)     = 0

[pid 20093] rt_sigprocmask(SIG_BLOCK, ~[],  <unfinished ...>

[pid 20112] <... set_robust_list resumed>) = 0
```

[pid 20093] <... rt_sigprocmask resumed>[], 8) = 0

[pid 20112] rt_sigprocmask(SIG_SETMASK, [], <unfinished ...>

[pid 20093]
clone3({flags=CLONE_VM|CLONE_FS|CLONE_FILES|CLONE_SIGHAND|CLONE_THREAD|CLONE_SYSVSEM|

CLONE_SETTLS|CLONE_PARENT_SETTID|CLONE_CHILD_CLEARTID, child_tid=0x7fdc0ceb9910,

parent_tid=0x7fdc0ceb9910, exit_signal=0, stack=0x7fdc0c6b9000, stack_size=0x7fff00,
tls=0x7fdc0ceb9640}

<unfinished ...>

[pid 20112] <... rt_sigprocmask resumed>NULL, 8) = 0

strace: Process 20113 attached

[pid 20112] rt_sigprocmask(SIG_BLOCK, ~[RT_1], <unfinished ...>

[pid 20093] <... clone3 resumed> => {parent_tid=[20113]}, 88) = 20113

[pid 20113] rseq(0x7fdc0ceb9fe0, 0x20, 0, 0x53053053 <unfinished ...>

[pid 20093] rt_sigprocmask(SIG_SETMASK, [], <unfinished ...>

[pid 20112] <... rt_sigprocmask resumed>NULL, 8) = 0

[pid 20093] <... rt_sigprocmask resumed>NULL, 8) = 0

[pid 20113] <... rseq resumed>)   = 0

[pid 20093] futex(0x7fdc0d6ba910, FUTEX_WAIT_BITSET|FUTEX_CLOCK_REALTIME, 20112, NULL,

FUTEX_BITSET_MATCH_ANY <unfinished ...>

[pid 20112] madvise(0x7fdc0ceba000, 8368128, MADV_DONTNEED <unfinished ...>

[pid 20113] set_robust_list(0x7fdc0ceb9920, 24 <unfinished ...>

[pid 20112] <... madvise resumed>)   = 0

[pid 20113] <... set_robust_list resumed>) = 0

[pid 20112] exit(0 <unfinished ...>

[pid 20113] rt_sigprocmask(SIG_SETMASK, [], <unfinished ...>

[pid 20112] <... exit resumed>)   = ?

[pid 20113] <... rt_sigprocmask resumed>NULL, 8) = 0

[pid 20093] <... futex resumed>)   = 0

[pid 20113] rt_sigprocmask(SIG_BLOCK, ~[RT_1], <unfinished ...>

[pid 20112] +++ exited with 0 +++

[pid 20093] futex(0x7fdc0ceb9910, FUTEX_WAIT_BITSET|FUTEX_CLOCK_REALTIME, 20113, NULL,

FUTEX_BITSET_MATCH_ANY <unfinished ...>

[pid 20113] <... rt_sigprocmask resumed>NULL, 8) = 0

[pid 20113] madvise(0x7fdc0c6b9000, 8368128, MADV_DONTNEED) = 0

```
[pid 20113] exit(0)                         = ?

[pid 20113] +++ exited with 0 +++

<... futex resumed>)                        = 0

write(1, "Result: 0.00226607 s\n", 21Result: 0.00226607 s

)  = 21

write(1, "1 2 3 4 5 \n", 111 2 3 4 5

)               = 11

lseek(0, -1, SEEK_CUR)                       = -1 ESPIPE (Недопустимая операция смещения)

exit_group(0)                                = ?

+++ exited with 0 +++
```

Вывод в ЛР 3:

```
execve("./main", ["./main", "lab03"], 0x7ffc50e86500 /* 60 vars */) = 0

brk(NULL)                                = 0x55c538910000

arch_prctl(0x3001 /* ARCH_??? */, 0x7ffe48644000) = -1 EINVAL (Недопустимый аргумент)

mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7f7fd090a000

access("/etc/ld.so.preload", R_OK)       = -1 ENOENT (Нет такого файла или каталога)

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

newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=75015, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 75015, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7f7fd08f7000

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\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=2260296, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 2275520, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f7fd06cb000

mprotect(0x7f7fd0765000, 1576960, PROT_NONE) = 0

mmap(0x7f7fd0765000, 1118208, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x9a000) =
0x7f7fd0765000

mmap(0x7f7fd0876000, 454656, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1ab000) = 0x7f7fd0876000

mmap(0x7f7fd08e6000, 57344, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x21a000) =
0x7f7fd08e6000

mmap(0x7f7fd08f4000, 10432, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0) =
0x7f7fd08f4000

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\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=125488, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 127720, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f7fd06ab000

mmap(0x7f7fd06ae000, 94208, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x3000) =
0x7f7fd06ae000
```

```
mmap(0x7f7fd06c5000, 16384, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1a000) = 0x7f7fd06c5000

mmap(0x7f7fd06c9000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1d000) =
0x7f7fd06c9000

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\0\3\0>\0\1\0\0\0P\237\2\0\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\0\300\4\0\0\0\3\0\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#\315I\214\234\f\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) = 0x7f7fd0483000

mmap(0x7f7fd04ab000, 1658880, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x28000) =
0x7f7fd04ab000

mmap(0x7f7fd0640000, 360448, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1bd000) = 0x7f7fd0640000

mmap(0x7f7fd0698000, 24576, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x214000) =
0x7f7fd0698000

mmap(0x7f7fd069e000, 52816, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0) =
0x7f7fd069e000

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\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) = 0x7f7fd039c000

mmap(0x7f7fd03aa000, 507904, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0xe000) =
0x7f7fd03aa000

mmap(0x7f7fd0426000, 372736, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x8a000) = 0x7f7fd0426000

mmap(0x7f7fd0481000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0xe4000) =
0x7f7fd0481000

close(3)                              = 0

mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7f7fd039a000

arch_prctl(ARCH_SET_FS, 0x7f7fd039b3c0) = 0

set_tid_address(0x7f7fd039b690)        = 63112

set_robust_list(0x7f7fd039b6a0, 24)     = 0

rseq(0x7f7fd039bd60, 0x20, 0, 0x53053053) = 0

mprotect(0x7f7fd0698000, 16384, PROT_READ) = 0

mprotect(0x7f7fd0481000, 4096, PROT_READ) = 0

mprotect(0x7f7fd06c9000, 4096, PROT_READ) = 0

mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7f7fd0398000

mprotect(0x7f7fd08e6000, 45056, PROT_READ) = 0

mprotect(0x55c537481000, 4096, PROT_READ) = 0

mprotect(0x7f7fd0944000, 8192, PROT_READ) = 0

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

```
munmap(0x7f7fd08f7000, 75015)          = 0

getrandom("\xa4\xfc\xd8\x1a\x15\x3a\xe4\x0e", 8, GRND_NONBLOCK) = 8

brk(NULL)                              = 0x55c538910000

brk(0x55c538931000)                    = 0x55c538931000

futex(0x7f7fd08f477c, FUTEX_WAKE_PRIVATE, 2147483647) = 0

openat(AT_FDCWD, "/dev/shm/lab03", O_RDWR|O_CREAT|O_NOFOLLOW|O_CLOEXEC, 0600) = 3

ftruncate(3, 10000)                    = 0

mmap(NULL, 10000, PROT_READ|PROT_WRITE, MAP_SHARED, 3, 0) = 0x7f7fd0907000

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

read(0, hello world!

"hello world!\n", 1024)          = 13

read(0, "", 1024)                      = 0

clone(child_stack=NULL, flags=CLONE_CHILD_CLEARTID|CLONE_CHILD_SETTID|SIGCHLD, child_tidptr=0x7f7fd039b690)
= 63551

strace: Process 63551 attached

[pid 63112] wait4(-1,  <unfinished ...>

[pid 63551] set_robust_list(0x7f7fd039b6a0, 24) = 0

[pid 63551] execve("../build/child1", ["../build/child1", "lab03"], 0x7ffe486441e0 /* 60 vars */) = 0

[pid 63551] brk(NULL)                  = 0x55d2a276f000

[pid 63551] arch_prctl(0x3001 /* ARCH_??? */, 0x7ffe06ab4540) = -1 EINVAL (Недопустимый аргумент)

[pid 63551] mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7fce44e28000

[pid 63551] access("/etc/ld.so.preload", R_OK) = -1 ENOENT (Нет такого файла или каталога)

[pid 63551] openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3

[pid 63551] newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=75015, ...}, AT_EMPTY_PATH) = 0

[pid 63551] mmap(NULL, 75015, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7fce44e15000

[pid 63551] close(3)                   = 0

[pid 63551] openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libstdc++.so.6", O_RDONLY|O_CLOEXEC) = 3

[pid 63551] read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0"..., 832) = 832

[pid 63551] newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=2260296, ...}, AT_EMPTY_PATH) = 0

[pid 63551] mmap(NULL, 2275520, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7fce44be9000

[pid 63551] mprotect(0x7fce44c83000, 1576960, PROT_NONE) = 0

[pid 63551] mmap(0x7fce44c83000, 1118208, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x9a000) = 0x7fce44c83000

[pid 63551] mmap(0x7fce44d94000, 454656, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1ab000) =
0x7fce44d94000

[pid 63551] mmap(0x7fce44e04000, 57344, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x21a000) = 0x7fce44e04000

[pid 63551] mmap(0x7fce44e12000, 10432, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0) =
0x7fce44e12000

[pid 63551] close(3)                   = 0

[pid 63551] openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libgcc_s.so.1", O_RDONLY|O_CLOEXEC) = 3

[pid 63551] read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0"..., 832) = 832
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[pid 63551] newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=125488, ...}, AT_EMPTY_PATH) = 0

[pid 63551] mmap(NULL, 127720, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7fce44bc9000

[pid 63551] mmap(0x7fce44bcc000, 94208, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x3000)
= 0x7fce44bcc000

[pid 63551] mmap(0x7fce44be3000, 16384, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1a000) =
0x7fce44be3000

[pid 63551] mmap(0x7fce44be7000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x1d000) = 0x7fce44be7000

[pid 63551] close(3)                      = 0

[pid 63551] openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libc.so.6", O_RDONLY|O_CLOEXEC) = 3

[pid 63551] read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0P\237\2\0\0\0\0\0"..., 832) = 832

[pid 63551] 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

[pid 63551] 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\0"..., 48, 848) = 48

[pid 63551] pread64(3, "\4\0\0\0\24\0\0\0\3\0\0\0GNU\0\244;\374\204(\337\177#\315I\214\234\f\256\271\32"...,
68, 896) = 68

[pid 63551] newfstatat(3, "", {st_mode=S_IFREG|0755, st_size=2216304, ...}, AT_EMPTY_PATH) = 0

[pid 63551] 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

[pid 63551] mmap(NULL, 2260560, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7fce449a1000

[pid 63551] mmap(0x7fce449c9000, 1658880, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x28000) = 0x7fce449c9000

[pid 63551] mmap(0x7fce44b5e000, 360448, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1bd000) =
0x7fce44b5e000

[pid 63551] mmap(0x7fce44bb6000, 24576, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x214000) = 0x7fce44bb6000

[pid 63551] mmap(0x7fce44bbc000, 52816, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0) =
0x7fce44bbc000

[pid 63551] close(3)                      = 0

[pid 63551] openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libm.so.6", O_RDONLY|O_CLOEXEC) = 3

[pid 63551] read(3, "\177ELF\2\1\1\3\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

[pid 63551] newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=940560, ...}, AT_EMPTY_PATH) = 0

[pid 63551] mmap(NULL, 942344, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7fce448ba000

[pid 63551] mmap(0x7fce448c8000, 507904, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0xe000) = 0x7fce448c8000

[pid 63551] mmap(0x7fce44944000, 372736, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x8a000) =
0x7fce44944000

[pid 63551] mmap(0x7fce4499f000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0xe4000) = 0x7fce4499f000

[pid 63551] close(3)                      = 0

[pid 63551] mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7fce448b8000

[pid 63551] arch_prctl(ARCH_SET_FS, 0x7fce448b93c0) = 0

[pid 63551] set_tid_address(0x7fce448b9690) = 63551

[pid 63551] set_robust_list(0x7fce448b96a0, 24) = 0

[pid 63551] rseq(0x7fce448b9d60, 0x20, 0, 0x53053053) = 0

[pid 63551] mprotect(0x7fce44bb6000, 16384, PROT_READ) = 0

[pid 63551] mprotect(0x7fce4499f000, 4096, PROT_READ) = 0
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[pid 63551] mprotect(0x7fce44be7000, 4096, PROT_READ) = 0

[pid 63551] mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7fce448b6000

[pid 63551] mprotect(0x7fce44e04000, 45056, PROT_READ) = 0

[pid 63551] mprotect(0x55d2a0a10000, 4096, PROT_READ) = 0

[pid 63551] mprotect(0x7fce44e62000, 8192, PROT_READ) = 0

[pid 63551] prlimit64(0, RLIMIT_STACK, NULL, {rlim_cur=8192*1024, rlim_max=RLIM64_INFINITY}) = 0

[pid 63551] munmap(0x7fce44e15000, 75015) = 0

[pid 63551] getrandom("\xfe\xeb\x94\x2f\xb9\x4d\xe2\x70", 8, GRND_NONBLOCK) = 8

[pid 63551] brk(NULL)                    = 0x55d2a276f000

[pid 63551] brk(0x55d2a2790000)          = 0x55d2a2790000

[pid 63551] futex(0x7fce44e1277c, FUTEX_WAKE_PRIVATE, 2147483647) = 0

[pid 63551] openat(AT_FDCWD, "/dev/shm/lab03", O_RDWR|O_CREAT|O_NOFOLLOW|O_CLOEXEC, 0600) = 3

[pid 63551] ftruncate(3, 10000)          = 0

[pid 63551] mmap(NULL, 10000, PROT_READ|PROT_WRITE, MAP_SHARED, 3, 0) = 0x7fce44e25000

[pid 63551] clone(child_stack=NULL, flags=CLONE_CHILD_CLEARTID|CLONE_CHILD_SETTID|SIGCHLDstrace: Process
63555 attached

, child_tidptr=0x7fce448b9690) = 63555

[pid 63555] set_robust_list(0x7fce448b96a0, 24 <unfinished ...>

[pid 63551] wait4(-1,  <unfinished ...>

[pid 63555] <... set_robust_list resumed>) = 0

[pid 63555] execve("../build/child2", ["../build/child2", "lab03"], 0x7ffe06ab4720 /* 60 vars */) = 0

[pid 63555] brk(NULL)                    = 0x557a9a8e4000

[pid 63555] arch_prctl(0x3001 /* ARCH_??? */, 0x7ffc81545220) = -1 EINVAL (Недопустимый аргумент)

[pid 63555] mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7f01070c7000

[pid 63555] access("/etc/ld.so.preload", R_OK) = -1 ENOENT (Нет такого файла или каталога)

[pid 63555] openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3

[pid 63555] newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=75015, ...}, AT_EMPTY_PATH) = 0

[pid 63555] mmap(NULL, 75015, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7f01070b4000

[pid 63555] close(3)                     = 0

[pid 63555] openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libstdc++.so.6", O_RDONLY|O_CLOEXEC) = 3

[pid 63555] read(3, "\177ELF\2\1\1\3\0\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

[pid 63555] newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=2260296, ...}, AT_EMPTY_PATH) = 0

[pid 63555] mmap(NULL, 2275520, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f0106e88000

[pid 63555] mprotect(0x7f0106f22000, 1576960, PROT_NONE) = 0

[pid 63555] mmap(0x7f0106f22000, 1118208, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x9a000) = 0x7f0106f22000

[pid 63555] mmap(0x7f0107033000, 454656, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1ab000) =
0x7f0107033000

[pid 63555] mmap(0x7f01070a3000, 57344, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x21a000) = 0x7f01070a3000

[pid 63555] mmap(0x7f01070b1000, 10432, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0) =
0x7f01070b1000
```

```
[pid 63555] close(3)                      = 0

[pid 63555] openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libgcc_s.so.1", O_RDONLY|O_CLOEXEC) = 3

[pid 63555] read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0"..., 832) = 832

[pid 63555] newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=125488, ...}, AT_EMPTY_PATH) = 0

[pid 63555] mmap(NULL, 127720, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f0106e68000

[pid 63555] mmap(0x7f0106e6b000, 94208, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x3000)
= 0x7f0106e6b000

[pid 63555] mmap(0x7f0106e82000, 16384, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1a000) =
0x7f0106e82000

[pid 63555] mmap(0x7f0106e86000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x1d000) = 0x7f0106e86000

[pid 63555] close(3)                      = 0

[pid 63555] openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libc.so.6", O_RDONLY|O_CLOEXEC) = 3

[pid 63555] read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0P\237\2\0\0\0\0\0"..., 832) = 832

[pid 63555] 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

[pid 63555] pread64(3, "\4\0\0\0 \0\0\0\5\0\0\0GNU\0\2\0\0\0300\4\0\0\3\0\0\0\0\0\0\0"..., 48, 848) = 48

[pid 63555] pread64(3, "\4\0\0\0\24\0\0\0\3\0\0\0GNU\0\244;\374\204(\337f#\315I\214\234\f\256\271\32"...,
68, 896) = 68

[pid 63555] newfstatat(3, "", {st_mode=S_IFREG|0755, st_size=2216304, ...}, AT_EMPTY_PATH) = 0

[pid 63555] 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

[pid 63555] mmap(NULL, 2260560, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f0106c40000

[pid 63555] mmap(0x7f0106c68000, 1658880, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x28000) = 0x7f0106c68000

[pid 63555] mmap(0x7f0106dfd000, 360448, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1bd000) =
0x7f0106dfd000

[pid 63555] mmap(0x7f0106e55000, 24576, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x214000) = 0x7f0106e55000

[pid 63555] mmap(0x7f0106e5b000, 52816, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0) =
0x7f0106e5b000

[pid 63555] close(3)                      = 0

[pid 63555] openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libm.so.6", O_RDONLY|O_CLOEXEC) = 3

[pid 63555] read(3, "\177ELF\2\1\1\3\0\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

[pid 63555] newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=940560, ...}, AT_EMPTY_PATH) = 0

[pid 63555] mmap(NULL, 942344, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f0106b59000

[pid 63555] mmap(0x7f0106b67000, 507904, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0xe000) = 0x7f0106b67000

[pid 63555] mmap(0x7f0106be3000, 372736, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x8a000) =
0x7f0106be3000

[pid 63555] mmap(0x7f0106c3e000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0xe4000) = 0x7f0106c3e000

[pid 63555] close(3)                      = 0

[pid 63555] mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7f0106b57000

[pid 63555] arch_prctl(ARCH_SET_FS, 0x7f0106b583c0) = 0

[pid 63555] set_tid_address(0x7f0106b58690) = 63555

[pid 63555] set_robust_list(0x7f0106b586a0, 24) = 0
```

```
[pid 63555] rseq(0x7f0106b58d60, 0x20, 0, 0x53053053) = 0

[pid 63555] mprotect(0x7f0106e55000, 16384, PROT_READ) = 0

[pid 63555] mprotect(0x7f0106c3e000, 4096, PROT_READ) = 0

[pid 63555] mprotect(0x7f0106e86000, 4096, PROT_READ) = 0

[pid 63555] mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7f0106b55000

[pid 63555] mprotect(0x7f01070a3000, 45056, PROT_READ) = 0

[pid 63555] mprotect(0x557a9a071000, 4096, PROT_READ) = 0

[pid 63555] mprotect(0x7f0107101000, 8192, PROT_READ) = 0

[pid 63555] prlimit64(0, RLIMIT_STACK, NULL, {rlim_cur=8192*1024, rlim_max=RLIM64_INFINITY}) = 0

[pid 63555] munmap(0x7f01070b4000, 75015) = 0

[pid 63555] getrandom("\x1b\x6d\x35\x51\xe3\x1e\xd0\x5d", 8, GRND_NONBLOCK) = 8

[pid 63555] brk(NULL)                    = 0x557a9a8e4000

[pid 63555] brk(0x557a9a905000)          = 0x557a9a905000

[pid 63555] futex(0x7f01070b177c, FUTEX_WAKE_PRIVATE, 2147483647) = 0

[pid 63555] openat(AT_FDCWD, "/dev/shm/lab03", O_RDWR|O_CREAT|O_NOFOLLOW|O_CLOEXEC, 0600) = 3

[pid 63555] ftruncate(3, 10000)          = 0

[pid 63555] mmap(NULL, 10000, PROT_READ|PROT_WRITE, MAP_SHARED, 3, 0) = 0x7f01070c4000

[pid 63555] munmap(0x7f01070c4000, 10000) = 0

[pid 63555] exit_group(0)                = ?

[pid 63555] +++ exited with 0 +++

[pid 63551] <... wait4 resumed>NULL, 0, NULL) = 63555

[pid 63551] --- SIGCHLD {si_signo=SIGCHLD, si_code=CLD_EXITED, si_pid=63555, si_uid=1000, si_status=0,
si_utime=0, si_stime=0} ---

[pid 63551] munmap(0x7fce44e25000, 10000) = 0

[pid 63551] exit_group(0)                = ?

[pid 63551] +++ exited with 0 +++

<... wait4 resumed>NULL, 0, NULL)        = 63551

--- SIGCHLD {si_signo=SIGCHLD, si_code=CLD_EXITED, si_pid=63551, si_uid=1000, si_status=0, si_utime=0,
si_stime=1} ---

newfstatat(1, "", {st_mode=S_IFCHR|0620, st_rdev=makedev(0x88, 0), ...}, AT_EMPTY_PATH) = 0

write(1, "HELLO_WORLD!\n", 13HELLO_WORLD!

)             = 13

unlink("/dev/shm/lab03")                 = 0

munmap(0x7f7fd0907000, 10000)            = 0

exit_group(0)                            = ?

+++ exited with 0 +++
```

Вывод в ЛР 4:

execve("./main1_impl1", ["./main1_impl1"], 0x7ffc10d8ab30 /* 36 vars */) = 0

brk(NULL)   = 0x55d755744000

arch_prctl(0x3001 /* ARCH_??? */, 0x7ffcfc54f2e0) = -1 EINVAL (Invalid argument)

mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7f643c9b3000

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

openat(AT_FDCWD, "/home/cat_mood/programming/mai-os-labs/lab04/build/glibc-hwcaps/x86-64-v3/liblib1.so", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

newfstatat(AT_FDCWD, "/home/cat_mood/programming/mai-os-labs/lab04/build/glibc-hwcaps/x86-64-v3", 0x7ffcfc54e500, 0) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/home/cat_mood/programming/mai-os-labs/lab04/build/glibc-hwcaps/x86-64-v2/liblib1.so", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

newfstatat(AT_FDCWD, "/home/cat_mood/programming/mai-os-labs/lab04/build/glibc-hwcaps/x86-64-v2", 0x7ffcfc54e500, 0) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/home/cat_mood/programming/mai-os-labs/lab04/build/tls/x86_64/x86_64/liblib1.so", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

newfstatat(AT_FDCWD, "/home/cat_mood/programming/mai-os-labs/lab04/build/tls/x86_64/x86_64", 0x7ffcfc54e500, 0) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/home/cat_mood/programming/mai-os-labs/lab04/build/tls/x86_64/liblib1.so", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

newfstatat(AT_FDCWD, "/home/cat_mood/programming/mai-os-labs/lab04/build/tls/x86_64", 0x7ffcfc54e500, 0) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/home/cat_mood/programming/mai-os-labs/lab04/build/tls/x86_64/liblib1.so", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

newfstatat(AT_FDCWD, "/home/cat_mood/programming/mai-os-labs/lab04/build/tls/x86_64", 0x7ffcfc54e500, 0) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/home/cat_mood/programming/mai-os-labs/lab04/build/tls/liblib1.so", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

newfstatat(AT_FDCWD, "/home/cat_mood/programming/mai-os-labs/lab04/build/tls", 0x7ffcfc54e500, 0) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/home/cat_mood/programming/mai-os-labs/lab04/build/x86_64/x86_64/liblib1.so", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

newfstatat(AT_FDCWD, "/home/cat_mood/programming/mai-os-labs/lab04/build/x86_64/x86_64", 0x7ffcfc54e500, 0) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/home/cat_mood/programming/mai-os-labs/lab04/build/x86_64/liblib1.so", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

newfstatat(AT_FDCWD, "/home/cat_mood/programming/mai-os-labs/lab04/build/x86_64", 0x7ffcfc54e500, 0) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/home/cat_mood/programming/mai-os-labs/lab04/build/x86_64/liblib1.so", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

newfstatat(AT_FDCWD, "/home/cat_mood/programming/mai-os-labs/lab04/build/x86_64", 0x7ffcfc54e500, 0) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/home/cat_mood/programming/mai-os-labs/lab04/build/liblib1.so", O_RDONLY|O_CLOEXEC) = 3

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

newfstatat(3, "", {st_mode=S_IFREG|0755, st_size=15592, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 16432, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f643c9ae000

mmap(0x7f643c9af000, 4096, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1000) = 0x7f643c9af000

mmap(0x7f643c9b0000, 4096, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x2000) = 0x7f643c9b0000

mmap(0x7f643c9b1000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x2000) = 0x7f643c9b1000

close(3)   = 0

openat(AT_FDCWD, "/home/cat_mood/programming/mai-os-labs/lab04/build/libc.so.6", O_RDONLY|O_CLOEXEC) = -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=25087, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 25087, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7f643c9a7000

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\0\0\3\0>\0\1\0\0\0P\237\2\0\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\0"..., 48, 848) = 48

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

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) = 0x7f643c77f000

mmap(0x7f643c7a7000, 1658880, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x28000) = 0x7f643c7a7000

mmap(0x7f643c93c000, 360448, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1bd000) = 0x7f643c93c000

mmap(0x7f643c994000, 24576, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x214000) = 0x7f643c994000

```
mmap(0x7f643c99a000, 52816, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7f643c99a000

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\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) =
0x7f643c698000

mmap(0x7f643c6a6000, 507904, PROT_READ|PROT_EXEC,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0xe000) = 0x7f643c6a6000

mmap(0x7f643c722000, 372736, PROT_READ,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x8a000) = 0x7f643c722000

mmap(0x7f643c77d000, 8192, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0xe4000) = 0x7f643c77d000

close(3)                      = 0

mmap(NULL, 12288, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1,
0) = 0x7f643c695000

arch_prctl(ARCH_SET_FS, 0x7f643c695740) = 0

set_tid_address(0x7f643c695a10)       = 16131

set_robust_list(0x7f643c695a20, 24)   = 0

rseq(0x7f643c6960e0, 0x20, 0, 0x53053053) = 0

mprotect(0x7f643c994000, 16384, PROT_READ) = 0

mprotect(0x7f643c77d000, 4096, PROT_READ) = 0

mprotect(0x7f643c9b1000, 4096, PROT_READ) = 0

mprotect(0x55d7544a7000, 4096, PROT_READ) = 0

mprotect(0x7f643c9ed000, 8192, PROT_READ) = 0

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

munmap(0x7f643c9a7000, 25087)         = 0

newfstatat(1, "", {st_mode=S_IFCHR|0620, st_rdev=makedev(0x88, 0x5), ...},
AT_EMPTY_PATH) = 0

getrandom("\x27\xd9\x17\xca\x4f\x48\xee\x55", 8, GRND_NONBLOCK) = 8

brk(NULL)                     = 0x55d755744000

brk(0x55d755765000)           = 0x55d755765000

write(1, "Test program 1. \n", 17Test program 1.

)     = 17
```

write(1, "For help enter 'h' \n", 20For help enter 'h'

)   = 20

newfstatat(0, "", {st_mode=S_IFCHR|0620, st_rdev=makedev(0x88, 0x5), ...}, AT_EMPTY_PATH) = 0

write(1, "> ", 2>)   = 2

read(0, q

"q\n", 1024)   = 2

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

exit_group(0)   = ?

+++ exited with 0 +++

Вторая программа

execve("./main2", ["./main2"], 0x7fff828656a0 /* 36 vars */) = 0

brk(NULL)   = 0x5607d3d01000

arch_prctl(0x3001 /* ARCH_??? */, 0x7ffe44d13960) = -1 EINVAL (Invalid argument)

mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7f981eebf000

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=25023, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 25023, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7f981eeb8000

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\0\0\3\0>\0\1\0\0\0P\237\2\0\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\0"..., 48, 848) = 48

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

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) = 0x7f981ec90000

mmap(0x7f981ecb8000, 1658880, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x28000) = 0x7f981ecb8000

mmap(0x7f981ee4d000, 360448, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1bd000) = 0x7f981ee4d000

mmap(0x7f981eea5000, 24576, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x214000) = 0x7f981eea5000

mmap(0x7f981eeab000, 52816, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7f981eeab000

close(3)   = 0

mmap(NULL, 12288, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7f981ec8d000

arch_prctl(ARCH_SET_FS, 0x7f981ec8d740) = 0

set_tid_address(0x7f981ec8da10)   = 7005

set_robust_list(0x7f981ec8da20, 24)   = 0

rseq(0x7f981ec8e0e0, 0x20, 0, 0x53053053) = 0

mprotect(0x7f981eea5000, 16384, PROT_READ) = 0

mprotect(0x5607d1f4b000, 4096, PROT_READ) = 0

mprotect(0x7f981eef9000, 8192, PROT_READ) = 0

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

munmap(0x7f981eeb8000, 25023)   = 0

getrandom("\x0f\x39\xd2\xf2\xcb\xdd\x9d\x6a", 8, GRND_NONBLOCK) = 8

brk(NULL)   = 0x5607d3d01000

brk(0x5607d3d22000)   = 0x5607d3d22000

openat(AT_FDCWD, "/home/cat_mood/programming/mai-os-labs/lab04/build/liblib1.so", O_RDONLY|O_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\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|0755, st_size=15536, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 16432, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f981eeba000

mmap(0x7f981eebb000, 4096, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1000) = 0x7f981eebb000

mmap(0x7f981eebc000, 4096, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x2000) = 0x7f981eebc000

mmap(0x7f981eebd000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x2000) = 0x7f981eebd000

close(3)   = 0

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

newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=25023, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 25023, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7f981ec86000

```
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\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) = 0x7f981eb9f000

mmap(0x7f981ebad000, 507904, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0xe000) = 0x7f981ebad000

mmap(0x7f981ec29000, 372736, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x8a000) = 0x7f981ec29000

mmap(0x7f981ec84000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0xe4000) = 0x7f981ec84000

close(3)                        = 0

mprotect(0x7f981ec84000, 4096, PROT_READ) = 0

mprotect(0x7f981eebd000, 4096, PROT_READ) = 0

munmap(0x7f981ec86000, 25023)           = 0

openat(AT_FDCWD, "/home/cat_mood/programming/mai-os-labs/lab04/build/liblib2.so", O_RDONLY|O_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\0\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|0755, st_size=15608, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 16432, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f981ec88000

mmap(0x7f981ec89000, 4096, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1000) = 0x7f981ec89000

mmap(0x7f981ec8a000, 4096, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x2000) = 0x7f981ec8a000

mmap(0x7f981ec8b000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x2000) = 0x7f981ec8b000

close(3)                        = 0

mprotect(0x7f981ec8b000, 4096, PROT_READ) = 0

newfstatat(1, "", {st_mode=S_IFCHR|0620, st_rdev=makedev(0x88, 0x5), ...}, AT_EMPTY_PATH) = 0

write(1, "Test program 1. \n", 17Test program 1.
)     = 17

write(1, "For help enter 'h' \n", 20For help enter 'h'
)   = 20
```

newfstatat(0, "", {st_mode=S_IFCHR|0620, st_rdev=makedev(0x88, 0x5), ...}, AT_EMPTY_PATH) = 0

write(1, "> ", 2>)   = 2

read(0, 0

"0\n", 1024)   = 2

write(1, "Implementation changed. Current "..., 37Implementation changed. Current is 1

) = 37

write(1, "> ", 2>)   = 2

read(0, q

"q\n", 1024)   = 2

munmap(0x7f981eeba000, 16432)   = 0

munmap(0x7f981ec88000, 16432)   = 0

munmap(0x7f981eb9f000, 942344)   = 0

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

exit_group(0)   = ?

+++ exited with 0 +++

Вывод в ЛР 5-7:

```
execve("./lab5-7_exe", ["./lab5-7_exe"], 0x7ffda5c591e0 /* 27 vars */) = 0

brk(NULL)                                = 0x562f286dd000

arch_prctl(0x3001 /* ARCH_??? */, 0x7ffe5d1aae50) = -1 EINVAL (Invalid argument)

mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) =
0x7f3ded59b000

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=32515, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 32515, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7f3ded593000

close(3)                                 = 0

openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libzmq.so.5", O_RDONLY|O_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\0\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=583920, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 585912, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f3ded503000

mmap(0x7f3ded51b000, 364544, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x18000) = 0x7f3ded51b000

mmap(0x7f3ded574000, 90112, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x71000) = 0x7f3ded574000
```

```
    mmap(0x7f3ded58a000, 36864, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x86000) = 0x7f3ded58a000

    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\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) = 0x7f3ded2d7000

    mprotect(0x7f3ded371000, 1576960, PROT_NONE) = 0

    mmap(0x7f3ded371000, 1118208, PROT_READ|PROT_EXEC,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x9a000) = 0x7f3ded371000

    mmap(0x7f3ded482000, 454656, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x1ab000) = 0x7f3ded482000

    mmap(0x7f3ded4f2000, 57344, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x21a000) = 0x7f3ded4f2000

    mmap(0x7f3ded500000, 10432, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS,
-1, 0) = 0x7f3ded500000

    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\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) = 0x7f3ded2b7000

    mmap(0x7f3ded2ba000, 94208, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x3000) = 0x7f3ded2ba000

    mmap(0x7f3ded2d1000, 16384, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x1a000) = 0x7f3ded2d1000

    mmap(0x7f3ded2d5000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x1d000) = 0x7f3ded2d5000

    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\0\3\0>\0\1\0\0\0P\237\2\0\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\0"..., 48,
848) = 48

    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

    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) = 0x7f3ded08f000

    mmap(0x7f3ded0b7000, 1658880, PROT_READ|PROT_EXEC,
MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x28000) = 0x7f3ded0b7000

    mmap(0x7f3ded24c000, 360448, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x1bd000) = 0x7f3ded24c000

    mmap(0x7f3ded2a4000, 24576, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x214000) = 0x7f3ded2a4000

    mmap(0x7f3ded2aa000, 52816, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS,
-1, 0) = 0x7f3ded2aa000

    close(3)                                = 0

    openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libunwind.so.8", O_RDONLY|O_CLOEXEC) = 3

    read(3, "\177ELF\2\1\1\0\0\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=63744, ...}, AT_EMPTY_PATH) = 0

    mmap(NULL, 109264, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f3ded074000

    mmap(0x7f3ded076000, 40960, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x2000) = 0x7f3ded076000

    mmap(0x7f3ded080000, 12288, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0xc000)
= 0x7f3ded080000

    mmap(0x7f3ded083000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0xe000) = 0x7f3ded083000

    mmap(0x7f3ded085000, 39632, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS,
-1, 0) = 0x7f3ded085000

    close(3)                                = 0

    openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libsodium.so.23", O_RDONLY|O_CLOEXEC) = 3

    read(3, "\177ELF\2\1\1\0\0\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=355040, ...}, AT_EMPTY_PATH) = 0

    mmap(NULL, 357440, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f3ded01c000

    mprotect(0x7f3ded028000, 303104, PROT_NONE) = 0

    mmap(0x7f3ded028000, 229376, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0xc000) = 0x7f3ded028000

    mmap(0x7f3ded060000, 69632, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x44000) = 0x7f3ded060000

    mmap(0x7f3ded072000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x55000) = 0x7f3ded072000

    close(3)                                = 0

    mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) =
0x7f3ded01a000

    openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libpgm-5.3.so.0", O_RDONLY|O_CLOEXEC) = 3

    read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\340L\0\0\0\0\0"..., 832) =
832
```

```
newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=310264, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 329808, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f3decfc9000

mmap(0x7f3decfcd000, 172032, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x4000) = 0x7f3decfcd000

mmap(0x7f3decff7000, 118784, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x2e000) = 0x7f3decff7000

mmap(0x7f3ded014000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x4a000) = 0x7f3ded014000

mmap(0x7f3ded016000, 14416, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS,
-1, 0) = 0x7f3ded016000

close(3)                                 = 0

openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libnorm.so.1", O_RDONLY|O_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0 \255\0\0\0\0\0\0"..., 832) =
832

newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=497824, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 1223168, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f3dece9e000

mprotect(0x7f3decea8000, 446464, PROT_NONE) = 0

mmap(0x7f3decea8000, 286720, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0xa000) = 0x7f3decea8000

mmap(0x7f3deceee000, 155648, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x50000) = 0x7f3deceee000

mmap(0x7f3decf15000, 16384, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x76000) = 0x7f3decf15000

mmap(0x7f3decf19000, 719360, PROT_READ|PROT_WRITE,
MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7f3decf19000

close(3)                                 = 0

openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libgssapi_krb5.so.2", O_RDONLY|O_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\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|0644, st_size=338648, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 340960, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f3dece4a000

mprotect(0x7f3dece55000, 282624, PROT_NONE) = 0

mmap(0x7f3dece55000, 229376, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0xb000) = 0x7f3dece55000

mmap(0x7f3dece8d000, 49152, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x43000) = 0x7f3dece8d000

mmap(0x7f3dece9a000, 16384, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x4f000) = 0x7f3dece9a000

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\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) = 0x7f3decd63000

mmap(0x7f3decd71000, 507904, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0xe000) = 0x7f3decd71000

mmap(0x7f3decded000, 372736, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x8a000) = 0x7f3decded000

mmap(0x7f3dece48000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0xe4000) = 0x7f3dece48000

close(3)                                = 0

openat(AT_FDCWD, "/lib/x86_64-linux-gnu/liblzma.so.5", O_RDONLY|O_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\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|0644, st_size=170456, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 172296, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f3decd38000

mmap(0x7f3decd3b000, 110592, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x3000) = 0x7f3decd3b000

mmap(0x7f3decd56000, 45056, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x1e000) = 0x7f3decd56000

mmap(0x7f3decd61000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x28000) = 0x7f3decd61000

close(3)                                = 0

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

read(3, "\177ELF\2\1\1\0\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|0644, st_size=21448, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) =
0x7f3decd36000

mmap(NULL, 16424, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f3decd31000

mmap(0x7f3decd32000, 4096, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x1000) = 0x7f3decd32000

mmap(0x7f3decd33000, 4096, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x2000)
= 0x7f3decd33000

mmap(0x7f3decd34000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x2000) = 0x7f3decd34000

close(3)                                = 0

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

read(3, "\177ELF\2\1\1\0\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|0644, st_size=827936, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 830576, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f3decc66000

mprotect(0x7f3decc87000, 634880, PROT_NONE) = 0
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```
mmap(0x7f3decc87000, 380928, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x21000) = 0x7f3decc87000

mmap(0x7f3decce4000, 249856, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x7e000) = 0x7f3decce4000

mmap(0x7f3decd22000, 61440, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0xbb000) = 0x7f3decd22000

close(3)                                 = 0

openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libk5crypto.so.3", O_RDONLY|O_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\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|0644, st_size=182864, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 188472, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f3decc37000

mprotect(0x7f3decc3b000, 163840, PROT_NONE) = 0

mmap(0x7f3decc3b000, 110592, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x4000) = 0x7f3decc3b000

mmap(0x7f3decc56000, 49152, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x1f000) = 0x7f3decc56000

mmap(0x7f3decc63000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x2b000) = 0x7f3decc63000

mmap(0x7f3decc65000, 56, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -
1, 0) = 0x7f3decc65000

close(3)                                 = 0

openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libcom_err.so.2", O_RDONLY|O_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\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|0644, st_size=18504, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 20552, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f3decc31000

mmap(0x7f3decc33000, 4096, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x2000) = 0x7f3decc33000

mmap(0x7f3decc34000, 4096, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x3000)
= 0x7f3decc34000

mmap(0x7f3decc35000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x3000) = 0x7f3decc35000

close(3)                                 = 0

openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libkrb5support.so.0", O_RDONLY|O_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\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|0644, st_size=52016, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 54224, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f3decc23000

mprotect(0x7f3decc26000, 36864, PROT_NONE) = 0

mmap(0x7f3decc26000, 24576, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x3000) = 0x7f3decc26000
```

```
mmap(0x7f3decc2c000, 8192, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x9000)
= 0x7f3decc2c000

mmap(0x7f3decc2f000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0xb000) = 0x7f3decc2f000

close(3)                                = 0

openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libkeyutils.so.1", O_RDONLY|O_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\0\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=22600, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) =
0x7f3decc21000

mmap(NULL, 24592, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f3decc1a000

mmap(0x7f3decc1c000, 8192, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x2000) = 0x7f3decc1c000

mmap(0x7f3decc1e000, 4096, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x4000)
= 0x7f3decc1e000

mmap(0x7f3decc1f000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x4000) = 0x7f3decc1f000

close(3)                                = 0

openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libresolv.so.2", O_RDONLY|O_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\0\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=68552, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 80456, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f3decc06000

mmap(0x7f3decc09000, 40960, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x3000) = 0x7f3decc09000

mmap(0x7f3decc13000, 12288, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0xd000)
= 0x7f3decc13000

mmap(0x7f3decc16000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0xf000) = 0x7f3decc16000

mmap(0x7f3decc18000, 6728, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS,
-1, 0) = 0x7f3decc18000

close(3)                                = 0

mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) =
0x7f3decc04000

mmap(NULL, 12288, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) =
0x7f3decc01000

arch_prctl(ARCH_SET_FS, 0x7f3decc019c0) = 0

set_tid_address(0x7f3decc01c90)         = 13203

set_robust_list(0x7f3decc01ca0, 24)     = 0

rseq(0x7f3decc02360, 0x20, 0, 0x53053053) = 0

mprotect(0x7f3ded2a4000, 16384, PROT_READ) = 0
```

```
mprotect(0x7f3decc16000, 4096, PROT_READ) = 0

mprotect(0x7f3decc1f000, 4096, PROT_READ) = 0

mprotect(0x7f3decc2f000, 4096, PROT_READ) = 0

mprotect(0x7f3decc35000, 4096, PROT_READ) = 0

mprotect(0x7f3decc63000, 4096, PROT_READ) = 0

mprotect(0x7f3decd22000, 53248, PROT_READ) = 0

mprotect(0x7f3decd34000, 4096, PROT_READ) = 0

mprotect(0x7f3decd61000, 4096, PROT_READ) = 0

mprotect(0x7f3dece48000, 4096, PROT_READ) = 0

mprotect(0x7f3dece9a000, 8192, PROT_READ) = 0

mprotect(0x7f3ded2d5000, 4096, PROT_READ) = 0

mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) =
0x7f3decbff000

mprotect(0x7f3ded4f2000, 45056, PROT_READ) = 0

mprotect(0x7f3decf15000, 12288, PROT_READ) = 0

mprotect(0x7f3ded014000, 4096, PROT_READ) = 0

mprotect(0x7f3ded072000, 4096, PROT_READ) = 0

mprotect(0x7f3ded083000, 4096, PROT_READ) = 0

mprotect(0x7f3ded58a000, 32768, PROT_READ) = 0

mprotect(0x562f26c92000, 4096, PROT_READ) = 0

mprotect(0x7f3ded5d5000, 8192, PROT_READ) = 0

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

munmap(0x7f3ded593000, 32515)            = 0

getrandom("\xc7\x7b\x4f\x88\xaa\xce\xa4\xba", 8, GRND_NONBLOCK) = 8

brk(NULL)                                = 0x562f286dd000

brk(0x562f286fe000)                      = 0x562f286fe000

futex(0x7f3ded50077c, FUTEX_WAKE_PRIVATE, 2147483647) = 0

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

read(3, "0-15\n", 1024)                  = 5

close(3)                                 = 0

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

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

getdents64(3, 0x562f286eeee0 /* 31 entries */, 32768) = 896

getdents64(3, 0x562f286eeee0 /* 0 entries */, 32768) = 0

close(3)                                 = 0
```

```
getpid()                                          = 13203
sched_getaffinity(13203, 128, [0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15])
= 32
newfstatat(AT_FDCWD, "/etc/nsswitch.conf", {st_mode=S_IFREG|0644, st_size=510, ...},
0) = 0
newfstatat(AT_FDCWD, "/", {st_mode=S_IFDIR|0755, st_size=4096, ...}, 0) = 0
openat(AT_FDCWD, "/etc/nsswitch.conf", O_RDONLY|O_CLOEXEC) = 3
newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=510, ...}, AT_EMPTY_PATH) = 0
read(3, "# /etc/nsswitch.conf\n#\n# Example"..., 4096) = 510
read(3, "", 4096)                                 = 0
newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=510, ...}, AT_EMPTY_PATH) = 0
close(3)                                          = 0
openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3
newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=32515, ...}, AT_EMPTY_PATH) = 0
mmap(NULL, 32515, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7f3ded593000
close(3)                                          = 0
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/glibc-hwcaps/x86-64-v3/libnss_db.so.2",
O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)
newfstatat(AT_FDCWD, "/lib/x86_64-linux-gnu/glibc-hwcaps/x86-64-v3", 0x7ffe5d1a7e50,
0) = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/glibc-hwcaps/x86-64-v2/libnss_db.so.2",
O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)
newfstatat(AT_FDCWD, "/lib/x86_64-linux-gnu/glibc-hwcaps/x86-64-v2", 0x7ffe5d1a7e50,
0) = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/tls/x86_64/x86_64/libnss_db.so.2",
O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)
newfstatat(AT_FDCWD, "/lib/x86_64-linux-gnu/tls/x86_64/x86_64", 0x7ffe5d1a7e50, 0) = -
1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/tls/x86_64/libnss_db.so.2",
O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)
newfstatat(AT_FDCWD, "/lib/x86_64-linux-gnu/tls/x86_64", 0x7ffe5d1a7e50, 0) = -1
ENOENT (No such file or directory)
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/tls/x86_64/libnss_db.so.2",
O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)
newfstatat(AT_FDCWD, "/lib/x86_64-linux-gnu/tls/x86_64", 0x7ffe5d1a7e50, 0) = -1
ENOENT (No such file or directory)
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/tls/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1
ENOENT (No such file or directory)
newfstatat(AT_FDCWD, "/lib/x86_64-linux-gnu/tls", 0x7ffe5d1a7e50, 0) = -1 ENOENT (No
such file or directory)
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/x86_64/x86_64/libnss_db.so.2",
O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)
```

```
        newfstatat(AT_FDCWD, "/lib/x86_64-linux-gnu/x86_64/x86_64", 0x7ffe5d1a7e50, 0) = -1
ENOENT (No such file or directory)

        openat(AT_FDCWD, "/lib/x86_64-linux-gnu/x86_64/libnss_db.so.2", O_RDONLY|O_CLOEXEC) =
-1 ENOENT (No such file or directory)

        newfstatat(AT_FDCWD, "/lib/x86_64-linux-gnu/x86_64", 0x7ffe5d1a7e50, 0) = -1 ENOENT
(No such file or directory)

        openat(AT_FDCWD, "/lib/x86_64-linux-gnu/x86_64/libnss_db.so.2", O_RDONLY|O_CLOEXEC) =
-1 ENOENT (No such file or directory)

        newfstatat(AT_FDCWD, "/lib/x86_64-linux-gnu/x86_64", 0x7ffe5d1a7e50, 0) = -1 ENOENT
(No such file or directory)

        openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1
ENOENT (No such file or directory)

        newfstatat(AT_FDCWD, "/lib/x86_64-linux-gnu", {st_mode=S_IFDIR|0755,
st_size=36864, ...}, 0) = 0

        openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/glibc-hwcaps/x86-64-v3/libnss_db.so.2",
O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

        newfstatat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/glibc-hwcaps/x86-64-v3",
0x7ffe5d1a7e50, 0) = -1 ENOENT (No such file or directory)

        openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/glibc-hwcaps/x86-64-v2/libnss_db.so.2",
O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

        newfstatat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/glibc-hwcaps/x86-64-v2",
0x7ffe5d1a7e50, 0) = -1 ENOENT (No such file or directory)

        openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/tls/x86_64/x86_64/libnss_db.so.2",
O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

        newfstatat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/tls/x86_64/x86_64", 0x7ffe5d1a7e50, 0)
= -1 ENOENT (No such file or directory)

        openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/tls/x86_64/libnss_db.so.2",
O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

        newfstatat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/tls/x86_64", 0x7ffe5d1a7e50, 0) = -1
ENOENT (No such file or directory)

        openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/tls/x86_64/libnss_db.so.2",
O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

        newfstatat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/tls/x86_64", 0x7ffe5d1a7e50, 0) = -1
ENOENT (No such file or directory)

        openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/tls/libnss_db.so.2", O_RDONLY|O_CLOEXEC) =
-1 ENOENT (No such file or directory)

        newfstatat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/tls", 0x7ffe5d1a7e50, 0) = -1 ENOENT
(No such file or directory)

        openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/x86_64/x86_64/libnss_db.so.2",
O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

        newfstatat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/x86_64/x86_64", 0x7ffe5d1a7e50, 0) = -
1 ENOENT (No such file or directory)

        openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/x86_64/libnss_db.so.2",
O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

        newfstatat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/x86_64", 0x7ffe5d1a7e50, 0) = -1
ENOENT (No such file or directory)
```

```
openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/x86_64/libnss_db.so.2",
O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

newfstatat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/x86_64", 0x7ffe5d1a7e50, 0) = -1
ENOENT (No such file or directory)

openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1
ENOENT (No such file or directory)

newfstatat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu", {st_mode=S_IFDIR|0755,
st_size=36864, ...}, 0) = 0

openat(AT_FDCWD, "/lib/glibc-hwcaps/x86-64-v3/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -
1 ENOENT (No such file or directory)

newfstatat(AT_FDCWD, "/lib/glibc-hwcaps/x86-64-v3", 0x7ffe5d1a7e50, 0) = -1 ENOENT (No
such file or directory)

openat(AT_FDCWD, "/lib/glibc-hwcaps/x86-64-v2/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -
1 ENOENT (No such file or directory)

newfstatat(AT_FDCWD, "/lib/glibc-hwcaps/x86-64-v2", 0x7ffe5d1a7e50, 0) = -1 ENOENT (No
such file or directory)

openat(AT_FDCWD, "/lib/tls/x86_64/x86_64/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1
ENOENT (No such file or directory)

newfstatat(AT_FDCWD, "/lib/tls/x86_64/x86_64", 0x7ffe5d1a7e50, 0) = -1 ENOENT (No such
file or directory)

openat(AT_FDCWD, "/lib/tls/x86_64/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No
such file or directory)

newfstatat(AT_FDCWD, "/lib/tls/x86_64", 0x7ffe5d1a7e50, 0) = -1 ENOENT (No such file
or directory)

openat(AT_FDCWD, "/lib/tls/x86_64/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No
such file or directory)

newfstatat(AT_FDCWD, "/lib/tls/x86_64", 0x7ffe5d1a7e50, 0) = -1 ENOENT (No such file
or directory)

openat(AT_FDCWD, "/lib/tls/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such
file or directory)

newfstatat(AT_FDCWD, "/lib/tls", 0x7ffe5d1a7e50, 0) = -1 ENOENT (No such file or
directory)

openat(AT_FDCWD, "/lib/x86_64/x86_64/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1 ENOENT
(No such file or directory)

newfstatat(AT_FDCWD, "/lib/x86_64/x86_64", 0x7ffe5d1a7e50, 0) = -1 ENOENT (No such
file or directory)

openat(AT_FDCWD, "/lib/x86_64/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No
such file or directory)

newfstatat(AT_FDCWD, "/lib/x86_64", 0x7ffe5d1a7e50, 0) = -1 ENOENT (No such file or
directory)

openat(AT_FDCWD, "/lib/x86_64/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No
such file or directory)

newfstatat(AT_FDCWD, "/lib/x86_64", 0x7ffe5d1a7e50, 0) = -1 ENOENT (No such file or
directory)

openat(AT_FDCWD, "/lib/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file
or directory)
```

```
newfstatat(AT_FDCWD, "/lib", {st_mode=S_IFDIR|0755, st_size=12288, ...}, 0) = 0

openat(AT_FDCWD, "/usr/lib/glibc-hwcaps/x86-64-v3/libnss_db.so.2", O_RDONLY|O_CLOEXEC)
= -1 ENOENT (No such file or directory)

newfstatat(AT_FDCWD, "/usr/lib/glibc-hwcaps/x86-64-v3", 0x7ffe5d1a7e50, 0) = -1 ENOENT
(No such file or directory)

openat(AT_FDCWD, "/usr/lib/glibc-hwcaps/x86-64-v2/libnss_db.so.2", O_RDONLY|O_CLOEXEC)
= -1 ENOENT (No such file or directory)

newfstatat(AT_FDCWD, "/usr/lib/glibc-hwcaps/x86-64-v2", 0x7ffe5d1a7e50, 0) = -1 ENOENT
(No such file or directory)

openat(AT_FDCWD, "/usr/lib/tls/x86_64/x86_64/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1
ENOENT (No such file or directory)

newfstatat(AT_FDCWD, "/usr/lib/tls/x86_64/x86_64", 0x7ffe5d1a7e50, 0) = -1 ENOENT (No
such file or directory)

openat(AT_FDCWD, "/usr/lib/tls/x86_64/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1 ENOENT
(No such file or directory)

newfstatat(AT_FDCWD, "/usr/lib/tls/x86_64", 0x7ffe5d1a7e50, 0) = -1 ENOENT (No such
file or directory)

openat(AT_FDCWD, "/usr/lib/tls/x86_64/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1 ENOENT
(No such file or directory)

newfstatat(AT_FDCWD, "/usr/lib/tls/x86_64", 0x7ffe5d1a7e50, 0) = -1 ENOENT (No such
file or directory)

openat(AT_FDCWD, "/usr/lib/tls/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No
such file or directory)

newfstatat(AT_FDCWD, "/usr/lib/tls", 0x7ffe5d1a7e50, 0) = -1 ENOENT (No such file or
directory)

openat(AT_FDCWD, "/usr/lib/x86_64/x86_64/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1
ENOENT (No such file or directory)

newfstatat(AT_FDCWD, "/usr/lib/x86_64/x86_64", 0x7ffe5d1a7e50, 0) = -1 ENOENT (No such
file or directory)

openat(AT_FDCWD, "/usr/lib/x86_64/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No
such file or directory)

newfstatat(AT_FDCWD, "/usr/lib/x86_64", 0x7ffe5d1a7e50, 0) = -1 ENOENT (No such file
or directory)

openat(AT_FDCWD, "/usr/lib/x86_64/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No
such file or directory)

newfstatat(AT_FDCWD, "/usr/lib/x86_64", 0x7ffe5d1a7e50, 0) = -1 ENOENT (No such file
or directory)

openat(AT_FDCWD, "/usr/lib/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such
file or directory)

newfstatat(AT_FDCWD, "/usr/lib", {st_mode=S_IFDIR|0755, st_size=12288, ...}, 0) = 0

munmap(0x7f3ded593000, 32515)            = 0

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

newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=32515, ...}, AT_EMPTY_PATH) = 0

mmap(NULL, 32515, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7f3ded593000
```

```
     close(3)                                = 0

     openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libnss_db-2.35.so", O_RDONLY|O_CLOEXEC) = -1
ENOENT (No such file or directory)

     openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/libnss_db-2.35.so", O_RDONLY|O_CLOEXEC) =
-1 ENOENT (No such file or directory)

     openat(AT_FDCWD, "/lib/libnss_db-2.35.so", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such
file or directory)

     openat(AT_FDCWD, "/usr/lib/libnss_db-2.35.so", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No
such file or directory)

     munmap(0x7f3ded593000, 32515)           = 0

     openat(AT_FDCWD, "/etc/protocols", O_RDONLY|O_CLOEXEC) = 3

     newfstatat(3, "", {st_mode=S_IFREG|0644, st_size=2932, ...}, AT_EMPTY_PATH) = 0

     lseek(3, 0, SEEK_SET)                    = 0

     read(3, "# Internet (IP) protocols\n#\n# Up"..., 4096) = 2932

     read(3, "", 4096)                        = 0

     close(3)                                 = 0

     eventfd2(0, EFD_CLOEXEC)                 = 3

     fcntl(3, F_GETFL)                        = 0x2 (flags O_RDWR)

     fcntl(3, F_SETFL, O_RDWR|O_NONBLOCK)     = 0

     fcntl(3, F_GETFL)                        = 0x802 (flags O_RDWR|O_NONBLOCK)

     fcntl(3, F_SETFL, O_RDWR|O_NONBLOCK)     = 0

     getpid()                                 = 13203

     getpid()                                 = 13203

     getrandom("\x6c\x5c\xe2\x32\x30\xe6\xf2\x1b\xdc\x2d\xac\xd8\x40\xe0\x20\x73", 16, 0) =
16

     getrandom("\xfb\x4c\x41\xdf\x15\xf6\x1d\x18\x9b\x44\x17\x2f\xd9\x93\xd8\x6b", 16, 0) =
16

     eventfd2(0, EFD_CLOEXEC)                 = 4

     fcntl(4, F_GETFL)                        = 0x2 (flags O_RDWR)

     fcntl(4, F_SETFL, O_RDWR|O_NONBLOCK)     = 0

     fcntl(4, F_GETFL)                        = 0x802 (flags O_RDWR|O_NONBLOCK)

     fcntl(4, F_SETFL, O_RDWR|O_NONBLOCK)     = 0

     getpid()                                 = 13203

     epoll_create1(EPOLL_CLOEXEC)             = 5

     epoll_ctl(5, EPOLL_CTL_ADD, 4, {events=0, data={u32=678359648, u64=94760541811296}}) =
0

     epoll_ctl(5, EPOLL_CTL_MOD, 4, {events=EPOLLIN, data={u32=678359648,
u64=94760541811296}}) = 0

     getpid()                                 = 13203
```

```
rt_sigaction(SIGRT_1, {sa_handler=0x7f3ded120870, sa_mask=[],
sa_flags=SA_RESTORER|SA_ONSTACK|SA_RESTART|SA_SIGINFO, sa_restorer=0x7f3ded0d1520}, 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) =
0x7f3dec3fe000

mprotect(0x7f3dec3ff000, 8388608, PROT_READ|PROT_WRITE) = 0

rt_sigprocmask(SIG_BLOCK, ~[], [], 8)   = 0

clone3({flags=CLONE_VM|CLONE_FS|CLONE_FILES|CLONE_SIGHAND|CLONE_THREAD|CLONE_SYSVSEM|C
LONE_SETTLS|CLONE_PARENT_SETTID|CLONE_CHILD_CLEARTID, child_tid=0x7f3decbfe910,
parent_tid=0x7f3decbfe910, exit_signal=0, stack=0x7f3dec3fe000, stack_size=0x7ffc80,
tls=0x7f3decbfe640} => {parent_tid=[13204]}, 88) = 13204

rt_sigprocmask(SIG_SETMASK, [], NULL, 8) = 0

eventfd2(0, EFD_CLOEXEC)                 = 6

fcntl(6, F_GETFL)                        = 0x2 (flags O_RDWR)

fcntl(6, F_SETFL, O_RDWR|O_NONBLOCK)     = 0

fcntl(6, F_GETFL)                        = 0x802 (flags O_RDWR|O_NONBLOCK)

fcntl(6, F_SETFL, O_RDWR|O_NONBLOCK)     = 0

getpid()                                 = 13203

epoll_create1(EPOLL_CLOEXEC)             = 7

epoll_ctl(7, EPOLL_CTL_ADD, 6, {events=0, data={u32=678363568, u64=94760541815216}}) =
0

epoll_ctl(7, EPOLL_CTL_MOD, 6, {events=EPOLLIN, data={u32=678363568,
u64=94760541815216}}) = 0

mmap(NULL, 8392704, PROT_NONE, MAP_PRIVATE|MAP_ANONYMOUS|MAP_STACK, -1, 0) =
0x7f3debbfd000

mprotect(0x7f3debbfe000, 8388608, PROT_READ|PROT_WRITE) = 0

rt_sigprocmask(SIG_BLOCK, ~[], [], 8)   = 0

clone3({flags=CLONE_VM|CLONE_FS|CLONE_FILES|CLONE_SIGHAND|CLONE_THREAD|CLONE_SYSVSEM|C
LONE_SETTLS|CLONE_PARENT_SETTID|CLONE_CHILD_CLEARTID, child_tid=0x7f3dec3fd910,
parent_tid=0x7f3dec3fd910, exit_signal=0, stack=0x7f3debbfd000, stack_size=0x7ffc80,
tls=0x7f3dec3fd640} => {parent_tid=[13205]}, 88) = 13205

rt_sigprocmask(SIG_SETMASK, [], NULL, 8) = 0

eventfd2(0, EFD_CLOEXEC)                 = 8

fcntl(8, F_GETFL)                        = 0x2 (flags O_RDWR)

fcntl(8, F_SETFL, O_RDWR|O_NONBLOCK)     = 0

fcntl(8, F_GETFL)                        = 0x802 (flags O_RDWR|O_NONBLOCK)

fcntl(8, F_SETFL, O_RDWR|O_NONBLOCK)     = 0

getpid()                                 = 13203

newfstatat(1, "", {st_mode=S_IFCHR|0620, st_rdev=makedev(0x88, 0), ...},
AT_EMPTY_PATH) = 0
```

```
write(1, "Starting Control Node\n", 22Starting Control Node
) = 22
write(1, "> ", 2> )                        = 2
newfstatat(0, "", {st_mode=S_IFCHR|0620, st_rdev=makedev(0x88, 0), ...},
AT_EMPTY_PATH) = 0
read(0, create 1
"create 1\n", 1024)              = 9
clone(child_stack=NULL, flags=CLONE_CHILD_CLEARTID|CLONE_CHILD_SETTID|SIGCHLD,
child_tidptr=0x7f3decc01c90) = 13218
getpid()                         = 13203
poll([{fd=8, events=POLLIN}], 1, 0)     = 0 (Timeout)
socket(AF_INET, SOCK_STREAM|SOCK_CLOEXEC, IPPROTO_TCP) = 9
setsockopt(9, SOL_SOCKET, SO_REUSEADDR, [1], 4) = 0
bind(9, {sa_family=AF_INET, sin_port=htons(5001), sin_addr=inet_addr("0.0.0.0")}, 16)
= 0
listen(9, 100)                   = 0
getsockname(9, {sa_family=AF_INET, sin_port=htons(5001),
sin_addr=inet_addr("0.0.0.0")}, [128 => 16]) = 0
getsockname(9, {sa_family=AF_INET, sin_port=htons(5001),
sin_addr=inet_addr("0.0.0.0")}, [128 => 16]) = 0
getpid()                         = 13203
write(6, "\1\0\0\0\0\0\0\0", 8)      = 8
getpid()                         = 13203
write(8, "\1\0\0\0\0\0\0\0", 8)      = 8
write(1, "Ok: 13218\n", 10Ok: 13218
)               = 10
write(1, "> ", 2> )                        = 2
read(0, pingall
"pingall\n", 1024)              = 8
getpid()                         = 13203
poll([{fd=8, events=POLLIN}], 1, 0)     = 1 ([{fd=8, revents=POLLIN}])
getpid()                         = 13203
read(8, "\1\0\0\0\0\0\0\0", 8)      = 8
getpid()                         = 13203
poll([{fd=8, events=POLLIN}], 1, 0)     = 0 (Timeout)
getpid()                         = 13203
write(6, "\1\0\0\0\0\0\0\0", 8)      = 8
getpid()                         = 13203
```

```
poll([{fd=8, events=POLLIN}], 1, -1)    = 1 ([{fd=8, revents=POLLIN}])
getpid()                                = 13203
read(8, "\1\0\0\0\0\0\0\0", 8)          = 8
getpid()                                = 13203
poll([{fd=8, events=POLLIN}], 1, 0)     = 0 (Timeout)
getpid()                                = 13203
write(6, "\1\0\0\0\0\0\0\0", 8)         = 8
write(1, "Ok: -1\n", 7Ok: -1
)                       = 7
write(1, "> ", 2> )                     = 2
read(0, q
"q\n", 1024)                    = 2
getpid()                                = 13203
poll([{fd=8, events=POLLIN}], 1, 0)     = 0 (Timeout)
getpid()                                = 13203
write(6, "\1\0\0\0\0\0\0\0", 8)         = 8
getpid()                                = 13203
write(4, "\1\0\0\0\0\0\0\0", 8)         = 8
getpid()                                = 13203
getpid()                                = 13203
write(8, "\1\0\0\0\0\0\0\0", 8)         = 8
futex(0x562f286ef388, FUTEX_WAKE_PRIVATE, 1) = 1
getpid()                                = 13203
--- SIGCHLD {si_signo=SIGCHLD, si_code=CLD_EXITED, si_pid=13218, si_uid=1000,
si_status=0, si_utime=0, si_stime=0} ---
poll([{fd=3, events=POLLIN}], 1, -1)    = 1 ([{fd=3, revents=POLLIN}])
getpid()                                = 13203
read(3, "\1\0\0\0\0\0\0\0", 8)          = 8
getpid()                                = 13203
write(6, "\1\0\0\0\0\0\0\0", 8)         = 8
close(7)                                = 0
close(6)                                = 0
close(5)                                = 0
close(4)                                = 0
close(3)                                = 0
lseek(0, -1, SEEK_CUR)                  = -1 ESPIPE (Illegal seek)
```

```
exit_group(0)                           = ?
+++ exited with 0 +++
```

Вывод

В ходе лабораторной работы я получил опыт работы с утилитой strace. Также я использовал эту утилиту при отладке моих лабораторных работ, что принесло большую практическую пользу.