Bilkent University

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CS 342 - Operating Systems
Project 3

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Section: 1

Step 1:

The output of step 1:

```
Step 1
------
Address of sizeX        = 0x00000000006020a0
Address of x            = 0x00000000006020c0
Address of y            = 0x00000000006022c0
Address of z            = 0x00000000006022a0
Address of sizeX2       = 0x0000000000602140
Address of x2           = 0x0000000000602160
Address of y2           = 0x0000000000606140
Address of sizeX3       = 0x00000000006021e0
Address of x3           = 0x0000000000602200
Address of y3           = 0x0000000000609fc0
Address of main         = 0x0000000000400970
Address of rec_func     = 0x00000000004008d7
Address of func1        = 0x0000000000400887
Address of func2        = 0x0000000000401097
Address of func3        = 0x00000000004010e7
Address of printf       = 0x00007f41b169ee80
```

The output of the pmap command:

```
15089:   ./app
0000000000400000      8K r-x-- app
0000000000601000      4K r---- app
0000000000602000      4K rw--- app
0000000000603000     44K rw---   [ anon ]
0000000000c91000    132K rw---   [ anon ]
00007f77fc76a000   1948K r-x-- libc-2.27.so
00007f77fc951000   2048K ----- libc-2.27.so
00007f77fcb51000     16K r---- libc-2.27.so
00007f77fcb55000      8K rw--- libc-2.27.so
00007f77fcb57000     16K rw---   [ anon ]
00007f77fcb5b000    156K r-x-- ld-2.27.so
00007f77fcd62000      8K rw---   [ anon ]
00007f77fcd82000      4K r---- ld-2.27.so
00007f77fcd83000      4K rw--- ld-2.27.so
00007f77fcd84000      4K rw---   [ anon ]
00007ffc5d256000    132K rw---   [ stack ]
00007ffc5d321000     12K r----   [ anon ]
00007ffc5d324000      4K r-x--   [ anon ]
ffffffffff600000      4K --x--   [ anon ]
 total             4556K
```

The second line at the pmap output above is the text segment and the third line is the data segment. The global variable outputs of the app are in the data segment range. Also, the function address defined in the app such as func1, func2, func3, recr_func, and main are in the text segment range as expected.

Some lines of the symbol table at the output of the objdump -dx ./app command:

```
SYMBOL TABLE:
00000000004010e7 g     F .text  0000000000000050             func3
00000000006020a0 g     O .data0000000000000004             sizeX
0000000000400887 g     F .text  0000000000000050             func1
0000000000602140 g     O .data0000000000000004             sizeX2
00000000006022a0 g     O .bss  0000000000000004             z
00000000006020c0 g     O .data0000000000000080             x
0000000000609fc0 g     O .bss   0000000000003e80             y3
00000000004008d7 g     F .text  0000000000000099             rec_func
0000000000602160 g     O .data0000000000000080             x2
0000000000401097 g     F .text  0000000000000050             func2
00000000006021e0 g     O .data0000000000000004             sizeX3
00000000006022c0 g     O .bss  0000000000003e80             y
0000000000400970 g     F .text  0000000000000727             main
0000000000602200 g     O .data0000000000000080             x3
0000000000606140 g     O .bss  0000000000003e80             y2
0000000000000000       F *UND*            0000000000000000             printf@@GLIBC_2.2.5
```

The addresses at the output of the app and the output of objdump are the same as can be seen from the outputs above. Then it can be said that the virtual addresses are formed when the linking process.

Some lines of the symbol table at the output of the objdump -dx module1.o command:

```
SYMBOL TABLE:
0000000000000000 g     O .data0000000000000004 sizeX
0000000000000020 g     O .data0000000000000080 x
0000000000003e80       O *COM*           0000000000000020 y
0000000000000004       O *COM*           0000000000000004 z
0000000000000000 g     F .text  0000000000000050 func1
00000000000000e9 g     F .text  0000000000000727 main
0000000000000000         *UND*0000000000000000 sizeX2
0000000000000000         *UND*0000000000000000 x2
0000000000000000         *UND*0000000000000000 y2
0000000000000000         *UND*0000000000000000 sizeX3
0000000000000000         *UND*0000000000000000 x3
0000000000000000         *UND*0000000000000000 y3
0000000000000000         *UND*0000000000000000 func2
0000000000000000         *UND*0000000000000000 func3
```

Some lines of the symbol table at the output of the objdump -dx module2.o command:

```
SYMBOL TABLE:
0000000000000000 g     O .data0000000000000004 sizeX2
0000000000000020 g     O .data0000000000000080 x2
```

```
0000000000003e80       O *COM*          0000000000000020 y2
0000000000000000 g     F .text  0000000000000050 func2
```

The addresses at the module1.o and module2.o are relative to the their corresponding segments. Therefore they are relocatable object modules. They don’t have absolute virtual memory addresses yet. However, the executable object module has absolute virtual memory addresses for its global variables and functions. Therefore, it is not relocatable.

From executable file:

```
  400b96:          e8 ec fc ff ff       callq  400887 <func1>
  400ba0:          e8 f2 04 00 00              callq  401097 <func2>
  400baa:          e8 38 05 00 00              callq  4010e7 <func3>
  400a68:          48 8d 05 f1 16 20 00      lea    0x2016f1(%rip),%rax        # 602160 <x2>
  400ab9:          48 8d 05 40 17 20 00      lea    0x201740(%rip),%rax        # 602200 <x3>
```

From module 1:

```
 30f:     e8 00 00 00 00             callq  314 <main+0x22b>
                                 310: R_X86_64_PC32   func1-0x4
 319:     e8 00 00 00 00             callq  31e <main+0x235>
                                 31a: R_X86_64_PLT32 func2-0x4
 323:     e8 00 00 00 00             callq  328 <main+0x23f>
                                 324: R_X86_64_PLT32 func3-0x4
```

From module 2:

```
  1a:     48 8d 05 00 00 00 00     lea    0x0(%rip),%rax        # 21 <func2+0x21>
                                 1d: R_X86_64_PC32     x2-0x4
 34:      48 8d 05 00 00 00 00     lea    0x0(%rip),%rax        # 3b <func2+0x3b>
                                 37: R_X86_64_PC32     x2-0x4
  42:     8b 05 00 00 00 00          mov    0x0(%rip),%eax        # 48 <func2+0x48>
                                 44: R_X86_64_PC32     sizeX2-0x4
```

From module 3:

```
 1a:      48 8d 05 00 00 00 00     lea    0x0(%rip),%rax        # 21 <func3+0x21>
                                 1d: R_X86_64_PC32     x3-0x4
  34:     48 8d 05 00 00 00 00     lea    0x0(%rip),%rax        # 3b <func3+0x3b>
                                 37: R_X86_64_PC32     x3-0x4
  42:     8b 05 00 00 00 00          mov    0x0(%rip),%eax        # 48 <func3+0x48>
                                 44: R_X86_64_PC32     sizeX3-0x4
```

In the relocatable object files, there are relocation entries instead of virtual memory address references. These relocation entries are replaced with the absolute virtual memory addresses by the linker. As we can see in the executable file instructions above, the relocatable entries are replaced by the virtual addresses of the functions and global variables.

From executable file:

```
  4009dc:          e8 af fd ff ff       callq  400790 <printf@plt>
```

From module 1:

```
 155:     e8 00 00 00 00              callq  15a <main+0x71>
                              156: R_X86_64_PLT32 printf-0x4
```

The output of the program:

```
Address of printf           = 0x00007f41b169ee80
```

The reference for the printf function is done by the relocatable entries at the output of objdump -dx module1.o command. However, while linking, the standard C library is not included yet. It is dynamically linked by using shared memory regions. Therefore, we cannot see the same address of the printf function with the output at the object file. If we look at the symbol table of the executable file, we can see that the print function is undefined now.

Files and folders at process directory related with memory :
map_files: Entries corresponding to memory-mapped files
numa_maps: Information about the numa memory
maps: Currently mapped memory regions and their access permissions
mem: Used to access the pages of a process's memory
oom_adj: Adjust the score used to select which process should be killed in an out-of-memory
oom_score: Current score for out-of-memory
oom_score_adj: Adjust the heuristics for out-of-memory
pagemap: Mapping of each of the process's virtual pages into physical page frames or swap area
smaps: Shows memory consumption for each of the process's mappings
smaps_rollup: Sum of the smaps information

Step 2:

The output of step 2:

```
Step 2
------
Address of a      = 0x00007f77fcce7010
Address of b      = 0x00007f77fcc6c010
Address of c      = 0x00007f77fcbf1010
Address of d      = 0x00007f77fc6ef010
```

The output of the pmap command:

```
15089:   ./app
0000000000400000      8K r-x-- app
0000000000601000      4K r---- app
0000000000602000      4K rw--- app
0000000000603000     44K rw---   [ anon ]
0000000000c91000    132K rw---   [ anon ]
00007f77fc6ef000    492K rw---   [ anon ]
00007f77fc76a000   1948K r-x-- libc-2.27.so
00007f77fc951000   2048K ----- libc-2.27.so
```

```
00007f77fcb51000     16K r---- libc-2.27.so
00007f77fcb55000      8K rw--- libc-2.27.so
00007f77fcb57000     16K rw---   [ anon ]
00007f77fcb5b000    156K r-x-- ld-2.27.so
00007f77fcbf1000   1484K rw---   [ anon ]
00007f77fcd82000      4K r---- ld-2.27.so
00007f77fcd83000      4K rw--- ld-2.27.so
00007f77fcd84000      4K rw---   [ anon ]
00007ffc5d256000    132K rw---   [ stack ]
00007ffc5d321000     12K r----   [ anon ]
00007ffc5d324000      4K r-x--   [ anon ]
ffffffffff600000      4K --x--   [ anon ]
 total             6524K
```

The heap segment is shown at the 14th line of the pmap output. The size of this segment increased from 8KB to 1484K by the dynamic allocations. Also, the addresses at the output of the program are in the range of this segment.

The output of the ps up command:

```
USER       PID %CPU %MEM    VSZ   RSS   TTY      STAT  START   TIME   COMMAND
emresev+ 15089  0.0   0.0    6520   760   pts/0     S+    19:05    0:00   ./app
```

Virtual memory size is 6520 KB and physical memory size is 760 KB.

Step 3:

The output of step 3:

```
Step 3
------
Address of i       = 0x00007ffc5d267bac
Address of i       = 0x00007ffc5d25b82c
Address of i       = 0x00007ffc5d24f4ac
Address of i       = 0x00007ffc5d24312c
Address of i       = 0x00007ffc5d236dac
```

The output of the pmap command:

```
15089:   ./app
0000000000400000      8K r-x-- app
0000000000601000      4K r---- app
0000000000602000      4K rw--- app
0000000000603000     44K rw---   [ anon ]
0000000000c91000    132K rw---   [ anon ]
00007f77fc6ef000    492K rw---   [ anon ]
00007f77fc76a000   1948K r-x-- libc-2.27.so
00007f77fc951000   2048K ----- libc-2.27.so
00007f77fcb51000     16K r---- libc-2.27.so
```

```
00007f77fcb55000      8K rw--- libc-2.27.so
00007f77fcb57000     16K rw---   [ anon ]
00007f77fcb5b000    156K r-x-- ld-2.27.so
00007f77fcbf1000   1484K rw---   [ anon ]
00007f77fcd82000      4K r---- ld-2.27.so
00007f77fcd83000      4K rw--- ld-2.27.so
00007f77fcd84000      4K rw---   [ anon ]
00007ffc5d236000    260K rw---   [ stack ]
00007ffc5d321000     12K r----   [ anon ]
00007ffc5d324000      4K r-x--   [ anon ]
ffffffffff600000      4K --x--   [ anon ]
 total             6652K
```

The addresses at the output are in the range of stack segment which is at the 18th line of the pmap output. The size of the stack segment is increased from 132 KB to 260 KB by the recursive calls.

Step 4:

The output of step 4:

```
Step 4
------
Address of mmapedData           = 0x00007f77fc5e2000
```

The output of the pmap command:

```
15089:   ./app
0000000000400000      8K r-x-- app
0000000000601000      4K r---- app
0000000000602000      4K rw--- app
0000000000603000     44K rw---   [ anon ]
0000000000c91000    132K rw---   [ anon ]
00007f77fc5e2000   1076K rw-s- file
00007f77fc6ef000    492K rw---   [ anon ]
00007f77fc76a000   1948K r-x-- libc-2.27.so
00007f77fc951000   2048K ----- libc-2.27.so
00007f77fcb51000     16K r---- libc-2.27.so
00007f77fcb55000      8K rw--- libc-2.27.so
00007f77fcb57000     16K rw---   [ anon ]
00007f77fcb5b000    156K r-x-- ld-2.27.so
00007f77fcbf1000   1484K rw---   [ anon ]
00007f77fcd82000      4K r---- ld-2.27.so
00007f77fcd83000      4K rw--- ld-2.27.so
00007f77fcd84000      4K rw---   [ anon ]
00007ffc5d236000    260K rw---   [ stack ]
00007ffc5d321000     12K r----   [ anon ]
00007ffc5d324000      4K r-x--   [ anon ]
ffffffffff600000      4K --x--   [ anon ]
```

```
 total            7728K
```

There is a new line called file at the pmap output. The size of this segment is 1076 KB. Also, the address of the mapped file with size 1.1 MB is in the range of the file segment. Therefore, the memory mapped file resides at the file segment.

The output of the ps up command:

```
USER       PID %CPU %MEM    VSZ   RSS   TTY     STAT  START     TIME   COMMAND
emresev+ 15089  0.0      0.0     7724  1616   pts/0      S+     19:05       0:00   ./app
```

Virtual memory size is 7724 KB and physical memory size is 1616 KB.

Step 5:

The output of the ps up command:

```
USER       PID %CPU %MEM    VSZ   RSS   TTY     STAT  START     TIME   COMMAND
emresev+ 15089  0.0      0.0     7724  1616   pts/0      S+     19:05       0:00   ./app
```

Virtual memory size is 7724 KB and physical memory size is 1616 KB.

The output of the pmap command:

```
15089:   ./app
0000000000400000      8K r-x-- app
0000000000601000      4K r---- app
0000000000602000      4K rw--- app
0000000000603000     44K rw---   [ anon ]
0000000000c91000    132K rw---   [ anon ]
00007f77fc5e2000   1076K rw-s- file
00007f77fc6ef000    492K rw---   [ anon ]
00007f77fc76a000   1948K r-x-- libc-2.27.so
00007f77fc951000   2048K ----- libc-2.27.so
00007f77fcb51000     16K r---- libc-2.27.so
00007f77fcb55000      8K rw--- libc-2.27.so
00007f77fcb57000     16K rw---   [ anon ]
00007f77fcb5b000    156K r-x-- ld-2.27.so
00007f77fcbf1000   1484K rw---   [ anon ]
00007f77fcd82000      4K r---- ld-2.27.so
00007f77fcd83000      4K rw--- ld-2.27.so
00007f77fcd84000      4K rw---   [ anon ]
00007ffc5d236000    260K rw---   [ stack ]
00007ffc5d321000     12K r----   [ anon ]
00007ffc5d324000      4K r-x--   [ anon ]
ffffffffff600000      4K --x--   [ anon ]
 total            7728K
```

First segment is the code segment with the size 8 KB. The next three segments contains the global variables. The 6th segment is the memory mapped file segment. The 8th to 13th segments are the segments for the other libraries imported. The 14th segment is the heap segment with size 1484 KB. The 15th to 17th segments are also for the imported codes. The 19th segment is the stack segment with size 260 KB.

The total data segment size is 1536 KB that is 384 pages. Also the code segment is 8 KB that is 2 pages.

```
0000000000400000      2 pages r-x-- app
0000000000601000      1 page r---- app
0000000000602000      1 page rw--- app
0000000000603000     11 pages rw---   [ anon ]
0000000000c91000    33 pages rw---   [ anon ]
00007f77fc5e2000   269 pages rw-s- file
00007f77fc6ef000    123 pages rw---   [ anon ]
00007f77fc76a000   487 pages r-x-- libc-2.27.so
00007f77fc951000   512 pages ----- libc-2.27.so
00007f77fcb51000     4 pages r---- libc-2.27.so
00007f77fcb55000      2 pages rw--- libc-2.27.so
00007f77fcb57000     4 pages rw---   [ anon ]
00007f77fcb5b000    39 pages r-x-- ld-2.27.so
00007f77fcbf1000   371 pages rw---   [ anon ]
00007f77fcd82000      1 page r---- ld-2.27.so
00007f77fcd83000      1 page rw--- ld-2.27.so
00007f77fcd84000      1 page rw---   [ anon ]
00007ffc5d236000    65 pages rw---   [ stack ]
00007ffc5d321000     3 pages r----   [ anon ]
00007ffc5d324000     1 page r-x--   [ anon ]
ffffffffff600000      1 page --x--   [ anon ]
 total             1932 pages
```

Step 6:

Some of the lines from the main part of the objdum file of executable object file:

```
0000000000400970 <main>:
  400970:          55                    push   %rbp
  400971:          48 89 e5                      mov    %rsp,%rbp
  400974:          48 81 ec 20 01 00 00     sub    $0x120,%rsp
  40097b:          89 bd ec fe ff ff             mov    %edi,-0x114(%rbp)
```

Some of the lines at the output of the step 6:

```
0x0000000000400970:   55
0x0000000000400971:   48
0x0000000000400972:   89
0x0000000000400973:   e5
0x0000000000400974:   48
```

```
0x0000000000400975:   81
0x0000000000400976:   ec
0x0000000000400977:   20
0x0000000000400978:   01
0x0000000000400979:   00
0x000000000040097a:   00
0x000000000040097b:   89
0x000000000040097c:   bd
0x000000000040097d:   ec
0x000000000040097e:   fe
0x000000000040097f:   ff
```

As can be seen from the outputs above, the bytes at the main function region of the output are exactly the same as the output of the objdump command for executable files.

Size of the program on disk: 14,1 kB (14.064 bytes)
After the static option: 850,1 kB (850.064 bytes)

The static option copies all the routines from the imported libraries and used in the program to the object file. Therefore, there are more functions, variables, instructions in the object dump file of the executable file compiled with the static option. The size of the file is much greater than the size of the dynamically compiled one.

Output of the step 6:

```
Step 6
------
Address of main           =
0x0000000000400970
Offset              =
0x00000000000002d0
Page adress       =
0x00000000004006a0

Content of the page:
0x00000000004006a0:   48
0x00000000004006a1:   83
0x00000000004006a2:   ec
0x00000000004006a3:   08
0x00000000004006a4:   48
0x00000000004006a5:   8b
0x00000000004006a6:   05
0x00000000004006a7:   4d
0x00000000004006a8:   19
0x00000000004006a9:   20
0x00000000004006aa:   00
0x00000000004006ab:   48
0x00000000004006ac:   85
0x00000000004006ad:   c0
0x00000000004006ae:   74
0x00000000004006af:   02
0x00000000004006b0:   ff
0x00000000004006b1:   d0
0x00000000004006b2:   48
0x00000000004006b3:   83
0x00000000004006b4:   c4
0x00000000004006b5:   08
0x00000000004006b6:   c3
0x00000000004006b7:   00
0x00000000004006b8:   00
0x00000000004006b9:   00
0x00000000004006ba:   00
0x00000000004006bb:   00
0x00000000004006bc:   00
0x00000000004006bd:   00
0x00000000004006be:   00
0x00000000004006bf:   00
0x00000000004006c0:   ff
0x00000000004006c1:   35
0x00000000004006c2:   42
0x00000000004006c3:   19
0x00000000004006c4:   20
0x00000000004006c5:   00
0x00000000004006c6:   ff
0x00000000004006c7:   25
0x00000000004006c8:   44
0x00000000004006c9:   19
0x00000000004006ca:   20
0x00000000004006cb:   00
0x00000000004006cc:   0f
0x00000000004006cd:   1f
0x00000000004006ce:   40
0x00000000004006cf:   00
0x00000000004006d0:   ff
0x00000000004006d1:   25
0x00000000004006d2:   42
0x00000000004006d3:   19
0x00000000004006d4:   20
0x00000000004006d5:   00
0x00000000004006d6:   68
0x00000000004006d7:   00
```

```
0x00000000004006d8:  00      0x0000000000400708:  00      0x0000000000400738:  00
0x00000000004006d9:  00      0x0000000000400709:  00      0x0000000000400739:  00
0x00000000004006da:  00      0x000000000040070a:  00      0x000000000040073a:  00
0x00000000004006db:  e9      0x000000000040070b:  e9      0x000000000040073b:  e9
0x00000000004006dc:  e0      0x000000000040070c:  b0      0x000000000040073c:  80
0x00000000004006dd:  ff      0x000000000040070d:  ff      0x000000000040073d:  ff
0x00000000004006de:  ff      0x000000000040070e:  ff      0x000000000040073e:  ff
0x00000000004006df:  ff      0x000000000040070f:  ff      0x000000000040073f:  ff
0x00000000004006e0:  ff      0x0000000000400710:  ff      0x0000000000400740:  ff
0x00000000004006e1:  25      0x0000000000400711:  25      0x0000000000400741:  25
0x00000000004006e2:  3a      0x0000000000400712:  22      0x0000000000400742:  0a
0x00000000004006e3:  19      0x0000000000400713:  19      0x0000000000400743:  19
0x00000000004006e4:  20      0x0000000000400714:  20      0x0000000000400744:  20
0x00000000004006e5:  00      0x0000000000400715:  00      0x0000000000400745:  00
0x00000000004006e6:  68      0x0000000000400716:  68      0x0000000000400746:  68
0x00000000004006e7:  01      0x0000000000400717:  04      0x0000000000400747:  07
0x00000000004006e8:  00      0x0000000000400718:  00      0x0000000000400748:  00
0x00000000004006e9:  00      0x0000000000400719:  00      0x0000000000400749:  00
0x00000000004006ea:  00      0x000000000040071a:  00      0x000000000040074a:  00
0x00000000004006eb:  e9      0x000000000040071b:  e9      0x000000000040074b:  e9
0x00000000004006ec:  d0      0x000000000040071c:  a0      0x000000000040074c:  70
0x00000000004006ed:  ff      0x000000000040071d:  ff      0x000000000040074d:  ff
0x00000000004006ee:  ff      0x000000000040071e:  ff      0x000000000040074e:  ff
0x00000000004006ef:  ff      0x000000000040071f:  ff      0x000000000040074f:  ff
0x00000000004006f0:  ff      0x0000000000400720:  ff      0x0000000000400750:  ff
0x00000000004006f1:  25      0x0000000000400721:  25      0x0000000000400751:  25
0x00000000004006f2:  32      0x0000000000400722:  1a      0x0000000000400752:  02
0x00000000004006f3:  19      0x0000000000400723:  19      0x0000000000400753:  19
0x00000000004006f4:  20      0x0000000000400724:  20      0x0000000000400754:  20
0x00000000004006f5:  00      0x0000000000400725:  00      0x0000000000400755:  00
0x00000000004006f6:  68      0x0000000000400726:  68      0x0000000000400756:  68
0x00000000004006f7:  02      0x0000000000400727:  05      0x0000000000400757:  08
0x00000000004006f8:  00      0x0000000000400728:  00      0x0000000000400758:  00
0x00000000004006f9:  00      0x0000000000400729:  00      0x0000000000400759:  00
0x00000000004006fa:  00      0x000000000040072a:  00      0x000000000040075a:  00
0x00000000004006fb:  e9      0x000000000040072b:  e9      0x000000000040075b:  e9
0x00000000004006fc:  c0      0x000000000040072c:  90      0x000000000040075c:  60
0x00000000004006fd:  ff      0x000000000040072d:  ff      0x000000000040075d:  ff
0x00000000004006fe:  ff      0x000000000040072e:  ff      0x000000000040075e:  ff
0x00000000004006ff:  ff      0x000000000040072f:  ff      0x000000000040075f:  ff
0x0000000000400700:  ff      0x0000000000400730:  ff      0x0000000000400760:  ff
0x0000000000400701:  25      0x0000000000400731:  25      0x0000000000400761:  25
0x0000000000400702:  2a      0x0000000000400732:  12      0x0000000000400762:  fa
0x0000000000400703:  19      0x0000000000400733:  19      0x0000000000400763:  18
0x0000000000400704:  20      0x0000000000400734:  20      0x0000000000400764:  20
0x0000000000400705:  00      0x0000000000400735:  00      0x0000000000400765:  00
0x0000000000400706:  68      0x0000000000400736:  68      0x0000000000400766:  68
0x0000000000400707:  03      0x0000000000400737:  06      0x0000000000400767:  09
```

```
0x0000000000400768:  00      0x0000000000400798:  00      0x00000000004007c8:  20
0x0000000000400769:  00      0x0000000000400799:  00      0x00000000004007c9:  00
0x000000000040076a:  00      0x000000000040079a:  00      0x00000000004007ca:  f4
0x000000000040076b:  e9      0x000000000040079b:  00      0x00000000004007cb:  0f
0x000000000040076c:  50      0x000000000040079c:  00      0x00000000004007cc:  1f
0x000000000040076d:  ff      0x000000000040079d:  00      0x00000000004007cd:  44
0x000000000040076e:  ff      0x000000000040079e:  00      0x00000000004007ce:  00
0x000000000040076f:  ff      0x000000000040079f:  00      0x00000000004007cf:  00
0x0000000000400770:  ff      0x00000000004007a0:  31      0x00000000004007d0:  f3
0x0000000000400771:  25      0x00000000004007a1:  ed      0x00000000004007d1:  c3
0x0000000000400772:  f2      0x00000000004007a2:  49      0x00000000004007d2:  66
0x0000000000400773:  18      0x00000000004007a3:  89      0x00000000004007d3:  2e
0x0000000000400774:  20      0x00000000004007a4:  d1      0x00000000004007d4:  0f
0x0000000000400775:  00      0x00000000004007a5:  5e      0x00000000004007d5:  1f
0x0000000000400776:  68      0x00000000004007a6:  48      0x00000000004007d6:  84
0x0000000000400777:  0a      0x00000000004007a7:  89      0x00000000004007d7:  00
0x0000000000400778:  00      0x00000000004007a8:  e2      0x00000000004007d8:  00
0x0000000000400779:  00      0x00000000004007a9:  48      0x00000000004007d9:  00
0x000000000040077a:  00      0x00000000004007aa:  83      0x00000000004007da:  00
0x000000000040077b:  e9      0x00000000004007ab:  e4      0x00000000004007db:  00
0x000000000040077c:  40      0x00000000004007ac:  f0      0x00000000004007dc:  0f
0x000000000040077d:  ff      0x00000000004007ad:  50      0x00000000004007dd:  1f
0x000000000040077e:  ff      0x00000000004007ae:  54      0x00000000004007de:  40
0x000000000040077f:  ff      0x00000000004007af:  49      0x00000000004007df:  00
0x0000000000400780:  ff      0x00000000004007b0:  c7      0x00000000004007e0:  55
0x0000000000400781:  25      0x00000000004007b1:  c0      0x00000000004007e1:  b8
0x0000000000400782:  ea      0x00000000004007b2:  b0      0x00000000004007e2:  80
0x0000000000400783:  18      0x00000000004007b3:  11      0x00000000004007e3:  22
0x0000000000400784:  20      0x00000000004007b4:  40      0x00000000004007e4:  60
0x0000000000400785:  00      0x00000000004007b5:  00      0x00000000004007e5:  00
0x0000000000400786:  68      0x00000000004007b6:  48      0x00000000004007e6:  48
0x0000000000400787:  0b      0x00000000004007b7:  c7      0x00000000004007e7:  3d
0x0000000000400788:  00      0x00000000004007b8:  c1      0x00000000004007e8:  80
0x0000000000400789:  00      0x00000000004007b9:  40      0x00000000004007e9:  22
0x000000000040078a:  00      0x00000000004007ba:  11      0x00000000004007ea:  60
0x000000000040078b:  e9      0x00000000004007bb:  40      0x00000000004007eb:  00
0x000000000040078c:  30      0x00000000004007bc:  00      0x00000000004007ec:  48
0x000000000040078d:  ff      0x00000000004007bd:  48      0x00000000004007ed:  89
0x000000000040078e:  ff      0x00000000004007be:  c7      0x00000000004007ee:  e5
0x000000000040078f:  ff      0x00000000004007bf:  c7      0x00000000004007ef:  74
0x0000000000400790:  ff      0x00000000004007c0:  70      0x00000000004007f0:  17
0x0000000000400791:  25      0x00000000004007c1:  09      0x00000000004007f1:  b8
0x0000000000400792:  52      0x00000000004007c2:  40      0x00000000004007f2:  00
0x0000000000400793:  18      0x00000000004007c3:  00      0x00000000004007f3:  00
0x0000000000400794:  20      0x00000000004007c4:  ff      0x00000000004007f4:  00
0x0000000000400795:  00      0x00000000004007c5:  15      0x00000000004007f5:  00
0x0000000000400796:  66      0x00000000004007c6:  26      0x00000000004007f6:  48
0x0000000000400797:  90      0x00000000004007c7:  18      0x00000000004007f7:  85
```

```
0x00000000004007f8:   c0
0x00000000004007f9:   74
0x00000000004007fa:   0d
0x00000000004007fb:   5d
0x00000000004007fc:   bf
0x00000000004007fd:   80
0x00000000004007fe:   22
0x00000000004007ff:   60
0x0000000000400800:   00
0x0000000000400801:   ff
0x0000000000400802:   e0
0x0000000000400803:   0f
0x0000000000400804:   1f
0x0000000000400805:   44
0x0000000000400806:   00
0x0000000000400807:   00
0x0000000000400808:   5d
0x0000000000400809:   c3
0x000000000040080a:   66
0x000000000040080b:   0f
0x000000000040080c:   1f
0x000000000040080d:   44
0x000000000040080e:   00
0x000000000040080f:   00
0x0000000000400810:   be
0x0000000000400811:   80
0x0000000000400812:   22
0x0000000000400813:   60
0x0000000000400814:   00
0x0000000000400815:   55
0x0000000000400816:   48
0x0000000000400817:   81
0x0000000000400818:   ee
0x0000000000400819:   80
0x000000000040081a:   22
0x000000000040081b:   60
0x000000000040081c:   00
0x000000000040081d:   48
0x000000000040081e:   89
0x000000000040081f:   e5
0x0000000000400820:   48
0x0000000000400821:   c1
0x0000000000400822:   fe
0x0000000000400823:   03
0x0000000000400824:   48
0x0000000000400825:   89
0x0000000000400826:   f0
0x0000000000400827:   48
0x0000000000400828:   c1
0x0000000000400829:   e8
0x000000000040082a:   3f
0x000000000040082b:   48
0x000000000040082c:   01
0x000000000040082d:   c6
0x000000000040082e:   48
0x000000000040082f:   d1
0x0000000000400830:   fe
0x0000000000400831:   74
0x0000000000400832:   15
0x0000000000400833:   b8
0x0000000000400834:   00
0x0000000000400835:   00
0x0000000000400836:   00
0x0000000000400837:   00
0x0000000000400838:   48
0x0000000000400839:   85
0x000000000040083a:   c0
0x000000000040083b:   74
0x000000000040083c:   0b
0x000000000040083d:   5d
0x000000000040083e:   bf
0x000000000040083f:   80
0x0000000000400840:   22
0x0000000000400841:   60
0x0000000000400842:   00
0x0000000000400843:   ff
0x0000000000400844:   e0
0x0000000000400845:   0f
0x0000000000400846:   1f
0x0000000000400847:   00
0x0000000000400848:   5d
0x0000000000400849:   c3
0x000000000040084a:   66
0x000000000040084b:   0f
0x000000000040084c:   1f
0x000000000040084d:   44
0x000000000040084e:   00
0x000000000040084f:   00
0x0000000000400850:   80
0x0000000000400851:   3d
0x0000000000400852:   29
0x0000000000400853:   1a
0x0000000000400854:   20
0x0000000000400855:   00
0x0000000000400856:   00
0x0000000000400857:   75
0x0000000000400858:   17
0x0000000000400859:   55
0x000000000040085a:   48
0x000000000040085b:   89
0x000000000040085c:   e5
0x000000000040085d:   e8
0x000000000040085e:   7e
0x000000000040085f:   ff
0x0000000000400860:   ff
0x0000000000400861:   ff
0x0000000000400862:   c6
0x0000000000400863:   05
0x0000000000400864:   17
0x0000000000400865:   1a
0x0000000000400866:   20
0x0000000000400867:   00
0x0000000000400868:   01
0x0000000000400869:   5d
0x000000000040086a:   c3
0x000000000040086b:   0f
0x000000000040086c:   1f
0x000000000040086d:   44
0x000000000040086e:   00
0x000000000040086f:   00
0x0000000000400870:   f3
0x0000000000400871:   c3
0x0000000000400872:   0f
0x0000000000400873:   1f
0x0000000000400874:   40
0x0000000000400875:   00
0x0000000000400876:   66
0x0000000000400877:   2e
0x0000000000400878:   0f
0x0000000000400879:   1f
0x000000000040087a:   84
0x000000000040087b:   00
0x000000000040087c:   00
0x000000000040087d:   00
0x000000000040087e:   00
0x000000000040087f:   00
0x0000000000400880:   55
0x0000000000400881:   48
0x0000000000400882:   89
0x0000000000400883:   e5
0x0000000000400884:   5d
0x0000000000400885:   eb
0x0000000000400886:   89
0x0000000000400887:   55
```

```
0x0000000000400888:  48        0x00000000004008b8:  00        0x00000000004008e8:  64
0x0000000000400889:  89        0x00000000004008b9:  00        0x00000000004008e9:  48
0x000000000040088a:  e5        0x00000000004008ba:  00        0x00000000004008ea:  8b
0x000000000040088b:  c7        0x00000000004008bb:  48        0x00000000004008eb:  04
0x000000000040088c:  45        0x00000000004008bc:  8d        0x00000000004008ec:  25
0x000000000040088d:  fc        0x00000000004008bd:  05        0x00000000004008ed:  28
0x000000000040088e:  00        0x00000000004008be:  fe        0x00000000004008ee:  00
0x000000000040088f:  00        0x00000000004008bf:  17        0x00000000004008ef:  00
0x0000000000400890:  00        0x00000000004008c0:  20        0x00000000004008f0:  00
0x0000000000400891:  00        0x00000000004008c1:  00        0x00000000004008f1:  48
0x0000000000400892:  eb        0x00000000004008c2:  89        0x00000000004008f2:  89
0x0000000000400893:  35        0x00000000004008c3:  0c        0x00000000004008f3:  45
0x0000000000400894:  8b        0x00000000004008c4:  02        0x00000000004008f4:  f8
0x0000000000400895:  45        0x00000000004008c5:  83        0x00000000004008f5:  31
0x0000000000400896:  fc        0x00000000004008c6:  45        0x00000000004008f6:  c0
0x0000000000400897:  48        0x00000000004008c7:  fc        0x00000000004008f7:  48
0x0000000000400898:  98        0x00000000004008c8:  01        0x00000000004008f8:  8d
0x0000000000400899:  48        0x00000000004008c9:  8b        0x00000000004008f9:  85
0x000000000040089a:  8d        0x00000000004008ca:  05        0x00000000004008fa:  9c
0x000000000040089b:  14        0x00000000004008cb:  d1        0x00000000004008fb:  3c
0x000000000040089c:  85        0x00000000004008cc:  17        0x00000000004008fc:  ff
0x000000000040089d:  00        0x00000000004008cd:  20        0x00000000004008fd:  ff
0x000000000040089e:  00        0x00000000004008ce:  00        0x00000000004008fe:  48
0x000000000040089f:  00        0x00000000004008cf:  39        0x00000000004008ff:  89
0x00000000004008a0:  00        0x00000000004008d0:  45        0x0000000000400900:  c6
0x00000000004008a1:  48        0x00000000004008d1:  fc        0x0000000000400901:  48
0x00000000004008a2:  8d        0x00000000004008d2:  7c        0x0000000000400902:  8d
0x00000000004008a3:  05        0x00000000004008d3:  c0        0x0000000000400903:  3d
0x00000000004008a4:  18        0x00000000004008d4:  90        0x0000000000400904:  e0
0x00000000004008a5:  18        0x00000000004008d5:  5d        0x0000000000400905:  08
0x00000000004008a6:  20        0x00000000004008d6:  c3        0x0000000000400906:  00
0x00000000004008a7:  00        0x00000000004008d7:  55        0x0000000000400907:  00
0x00000000004008a8:  8b        0x00000000004008d8:  48        0x0000000000400908:  b8
0x00000000004008a9:  04        0x00000000004008d9:  89        0x0000000000400909:  00
0x00000000004008aa:  02        0x00000000004008da:  e5        0x000000000040090a:  00
0x00000000004008ab:  8d        0x00000000004008db:  48        0x000000000040090b:  00
0x00000000004008ac:  0c        0x00000000004008dc:  81        0x000000000040090c:  00
0x00000000004008ad:  00        0x00000000004008dd:  ec        0x000000000040090d:  e8
0x00000000004008ae:  8b        0x00000000004008de:  70        0x000000000040090e:  7e
0x00000000004008af:  45        0x00000000004008df:  c3        0x000000000040090f:  fe
0x00000000004008b0:  fc        0x00000000004008e0:  00        0x0000000000400910:  ff
0x00000000004008b1:  48        0x00000000004008e1:  00        0x0000000000400911:  ff
0x00000000004008b2:  98        0x00000000004008e2:  89        0x0000000000400912:  48
0x00000000004008b3:  48        0x00000000004008e3:  bd        0x0000000000400913:  8d
0x00000000004008b4:  8d        0x00000000004008e4:  9c        0x0000000000400914:  85
0x00000000004008b5:  14        0x00000000004008e5:  3c        0x0000000000400915:  a0
0x00000000004008b6:  85        0x00000000004008e6:  ff        0x0000000000400916:  3c
0x00000000004008b7:  00        0x00000000004008e7:  ff        0x0000000000400917:  ff
```

```
0x0000000000400918:  ff      0x0000000000400948:  85      0x0000000000400978:  01
0x0000000000400919:  ba      0x0000000000400949:  9c      0x0000000000400979:  00
0x000000000040091a:  50      0x000000000040094a:  3c      0x000000000040097a:  00
0x000000000040091b:  c3      0x000000000040094b:  ff      0x000000000040097b:  89
0x000000000040091c:  00      0x000000000040094c:  ff      0x000000000040097c:  bd
0x000000000040091d:  00      0x000000000040094d:  8b      0x000000000040097d:  ec
0x000000000040091e:  be      0x000000000040094e:  85      0x000000000040097e:  fe
0x000000000040091f:  00      0x000000000040094f:  9c      0x000000000040097f:  ff
0x0000000000400920:  00      0x0000000000400950:  3c      0x0000000000400980:  ff
0x0000000000400921:  00      0x0000000000400951:  ff      0x0000000000400981:  48
0x0000000000400922:  00      0x0000000000400952:  ff      0x0000000000400982:  89
0x0000000000400923:  48      0x0000000000400953:  89      0x0000000000400983:  b5
0x0000000000400924:  89      0x0000000000400954:  c7      0x0000000000400984:  e0
0x0000000000400925:  c7      0x0000000000400955:  e8      0x0000000000400985:  fe
0x0000000000400926:  e8      0x0000000000400956:  7d      0x0000000000400986:  ff
0x0000000000400927:  05      0x0000000000400957:  ff      0x0000000000400987:  ff
0x0000000000400928:  fe      0x0000000000400958:  ff      0x0000000000400988:  64
0x0000000000400929:  ff      0x0000000000400959:  ff      0x0000000000400989:  48
0x000000000040092a:  ff      0x000000000040095a:  48      0x000000000040098a:  8b
0x000000000040092b:  8b      0x000000000040095b:  8b      0x000000000040098b:  04
0x000000000040092c:  85      0x000000000040095c:  4d      0x000000000040098c:  25
0x000000000040092d:  9c      0x000000000040095d:  f8      0x000000000040098d:  28
0x000000000040092e:  3c      0x000000000040095e:  64      0x000000000040098e:  00
0x000000000040092f:  ff      0x000000000040095f:  48      0x000000000040098f:  00
0x0000000000400930:  ff      0x0000000000400960:  33      0x0000000000400990:  00
0x0000000000400931:  83      0x0000000000400961:  0c      0x0000000000400991:  48
0x0000000000400932:  f8      0x0000000000400962:  25      0x0000000000400992:  89
0x0000000000400933:  04      0x0000000000400963:  28      0x0000000000400993:  45
0x0000000000400934:  7e      0x0000000000400964:  00      0x0000000000400994:  f8
0x0000000000400935:  08      0x0000000000400965:  00      0x0000000000400995:  31
0x0000000000400936:  8b      0x0000000000400966:  00      0x0000000000400996:  c0
0x0000000000400937:  85      0x0000000000400967:  74      0x0000000000400997:  c7
0x0000000000400938:  9c      0x0000000000400968:  05      0x0000000000400998:  85
0x0000000000400939:  3c      0x0000000000400969:  e8      0x0000000000400999:  f4
0x000000000040093a:  ff      0x000000000040096a:  a2      0x000000000040099a:  fe
0x000000000040093b:  ff      0x000000000040096b:  fd      0x000000000040099b:  ff
0x000000000040093c:  eb      0x000000000040096c:  ff      0x000000000040099c:  ff
0x000000000040093d:  1c      0x000000000040096d:  ff      0x000000000040099d:  00
0x000000000040093e:  8b      0x000000000040096e:  c9      0x000000000040099e:  00
0x000000000040093f:  85      0x000000000040096f:  c3      0x000000000040099f:  00
0x0000000000400940:  9c      0x0000000000400970:  55      0x00000000004009a0:  00
0x0000000000400941:  3c      0x0000000000400971:  48      0x00000000004009a1:  c6
0x0000000000400942:  ff      0x0000000000400972:  89      0x00000000004009a2:  85
0x0000000000400943:  ff      0x0000000000400973:  e5      0x00000000004009a3:  f2
0x0000000000400944:  83      0x0000000000400974:  48      0x00000000004009a4:  fe
0x0000000000400945:  c0      0x0000000000400975:  81      0x00000000004009a5:  ff
0x0000000000400946:  01      0x0000000000400976:  ec      0x00000000004009a6:  ff
0x0000000000400947:  89      0x0000000000400977:  20      0x00000000004009a7:  6e
```

```
0x00000000004009a8:   80
0x00000000004009a9:   bd
0x00000000004009aa:   f2
0x00000000004009ab:   fe
0x00000000004009ac:   ff
0x00000000004009ad:   ff
0x00000000004009ae:   6e
0x00000000004009af:   0f
0x00000000004009b0:   85
0x00000000004009b1:   12
0x00000000004009b2:   06
0x00000000004009b3:   00
0x00000000004009b4:   00
0x00000000004009b5:   83
0x00000000004009b6:   85
0x00000000004009b7:   f4
0x00000000004009b8:   fe
0x00000000004009b9:   ff
0x00000000004009ba:   ff
0x00000000004009bb:   01
0x00000000004009bc:   83
0x00000000004009bd:   bd
0x00000000004009be:   f4
0x00000000004009bf:   fe
0x00000000004009c0:   ff
0x00000000004009c1:   ff
0x00000000004009c2:   01
0x00000000004009c3:   0f
0x00000000004009c4:   85
0x00000000004009c5:   eb
0x00000000004009c6:   01
0x00000000004009c7:   00
0x00000000004009c8:   00
0x00000000004009c9:   48
0x00000000004009ca:   8d
0x00000000004009cb:   35
0x00000000004009cc:   31
0x00000000004009cd:   08
0x00000000004009ce:   00
0x00000000004009cf:   00
0x00000000004009d0:   48
0x00000000004009d1:   8d
0x00000000004009d2:   3d
0x00000000004009d3:   31
0x00000000004009d4:   08
0x00000000004009d5:   00
0x00000000004009d6:   00
0x00000000004009d7:   b8
0x00000000004009d8:   00
0x00000000004009d9:   00
0x00000000004009da:   00
0x00000000004009db:   00
0x00000000004009dc:   e8
0x00000000004009dd:   af
0x00000000004009de:   fd
0x00000000004009df:   ff
0x00000000004009e0:   ff
0x00000000004009e1:   48
0x00000000004009e2:   8d
0x00000000004009e3:   05
0x00000000004009e4:   b8
0x00000000004009e5:   16
0x00000000004009e6:   20
0x00000000004009e7:   00
0x00000000004009e8:   48
0x00000000004009e9:   89
0x00000000004009ea:   c6
0x00000000004009eb:   48
0x00000000004009ec:   8d
0x00000000004009ed:   3d
0x00000000004009ee:   22
0x00000000004009ef:   08
0x00000000004009f0:   00
0x00000000004009f1:   00
0x00000000004009f2:   b8
0x00000000004009f3:   00
0x00000000004009f4:   00
0x00000000004009f5:   00
0x00000000004009f6:   00
0x00000000004009f7:   e8
0x00000000004009f8:   94
0x00000000004009f9:   fd
0x00000000004009fa:   ff
0x00000000004009fb:   ff
0x00000000004009fc:   48
0x00000000004009fd:   8d
0x00000000004009fe:   05
0x00000000004009ff:   bd
0x0000000000400a00:   16
0x0000000000400a01:   20
0x0000000000400a02:   00
0x0000000000400a03:   48
0x0000000000400a04:   89
0x0000000000400a05:   c6
0x0000000000400a06:   48
0x0000000000400a07:   8d
0x0000000000400a08:   3d
0x0000000000400a09:   24
0x0000000000400a0a:   08
0x0000000000400a0b:   00
0x0000000000400a0c:   00
0x0000000000400a0d:   b8
0x0000000000400a0e:   00
0x0000000000400a0f:   00
0x0000000000400a10:   00
0x0000000000400a11:   00
0x0000000000400a12:   e8
0x0000000000400a13:   79
0x0000000000400a14:   fd
0x0000000000400a15:   ff
0x0000000000400a16:   ff
0x0000000000400a17:   48
0x0000000000400a18:   8d
0x0000000000400a19:   05
0x0000000000400a1a:   a2
0x0000000000400a1b:   18
0x0000000000400a1c:   20
0x0000000000400a1d:   00
0x0000000000400a1e:   48
0x0000000000400a1f:   89
0x0000000000400a20:   c6
0x0000000000400a21:   48
0x0000000000400a22:   8d
0x0000000000400a23:   3d
0x0000000000400a24:   23
0x0000000000400a25:   08
0x0000000000400a26:   00
0x0000000000400a27:   00
0x0000000000400a28:   b8
0x0000000000400a29:   00
0x0000000000400a2a:   00
0x0000000000400a2b:   00
0x0000000000400a2c:   00
0x0000000000400a2d:   e8
0x0000000000400a2e:   5e
0x0000000000400a2f:   fd
0x0000000000400a30:   ff
0x0000000000400a31:   ff
0x0000000000400a32:   48
0x0000000000400a33:   8d
0x0000000000400a34:   05
0x0000000000400a35:   67
0x0000000000400a36:   18
0x0000000000400a37:   20
```

```
0x0000000000400a38:   00
0x0000000000400a39:   48
0x0000000000400a3a:   89
0x0000000000400a3b:   c6
0x0000000000400a3c:   48
0x0000000000400a3d:   8d
0x0000000000400a3e:   3d
0x0000000000400a3f:   22
0x0000000000400a40:   08
0x0000000000400a41:   00
0x0000000000400a42:   00
0x0000000000400a43:   b8
0x0000000000400a44:   00
0x0000000000400a45:   00
0x0000000000400a46:   00
0x0000000000400a47:   00
0x0000000000400a48:   e8
0x0000000000400a49:   43
0x0000000000400a4a:   fd
0x0000000000400a4b:   ff
0x0000000000400a4c:   ff
0x0000000000400a4d:   48
0x0000000000400a4e:   8d
0x0000000000400a4f:   05
0x0000000000400a50:   ec
0x0000000000400a51:   16
0x0000000000400a52:   20
0x0000000000400a53:   00
0x0000000000400a54:   48
0x0000000000400a55:   89
0x0000000000400a56:   c6
0x0000000000400a57:   48
0x0000000000400a58:   8d
0x0000000000400a59:   3d
0x0000000000400a5a:   21
0x0000000000400a5b:   08
0x0000000000400a5c:   00
0x0000000000400a5d:   00
0x0000000000400a5e:   b8
0x0000000000400a5f:   00
0x0000000000400a60:   00
0x0000000000400a61:   00
0x0000000000400a62:   00
0x0000000000400a63:   e8
0x0000000000400a64:   28
0x0000000000400a65:   fd
0x0000000000400a66:   ff
0x0000000000400a67:   ff
0x0000000000400a68:   48
0x0000000000400a69:   8d
0x0000000000400a6a:   05
0x0000000000400a6b:   f1
0x0000000000400a6c:   16
0x0000000000400a6d:   20
0x0000000000400a6e:   00
0x0000000000400a6f:   48
0x0000000000400a70:   89
0x0000000000400a71:   c6
0x0000000000400a72:   48
0x0000000000400a73:   8d
0x0000000000400a74:   3d
0x0000000000400a75:   24
0x0000000000400a76:   08
0x0000000000400a77:   00
0x0000000000400a78:   00
0x0000000000400a79:   b8
0x0000000000400a7a:   00
0x0000000000400a7b:   00
0x0000000000400a7c:   00
0x0000000000400a7d:   00
0x0000000000400a7e:   e8
0x0000000000400a7f:   0d
0x0000000000400a80:   fd
0x0000000000400a81:   ff
0x0000000000400a82:   ff
0x0000000000400a83:   48
0x0000000000400a84:   8d
0x0000000000400a85:   05
0x0000000000400a86:   b6
0x0000000000400a87:   56
0x0000000000400a88:   20
0x0000000000400a89:   00
0x0000000000400a8a:   48
0x0000000000400a8b:   89
0x0000000000400a8c:   c6
0x0000000000400a8d:   48
0x0000000000400a8e:   8d
0x0000000000400a8f:   3d
0x0000000000400a90:   24
0x0000000000400a91:   08
0x0000000000400a92:   00
0x0000000000400a93:   00
0x0000000000400a94:   b8
0x0000000000400a95:   00
0x0000000000400a96:   00
0x0000000000400a97:   00
0x0000000000400a98:   00
0x0000000000400a99:   e8
0x0000000000400a9a:   f2
0x0000000000400a9b:   fc
0x0000000000400a9c:   ff
0x0000000000400a9d:   ff
0x0000000000400a9e:   48
0x0000000000400a9f:   8d
0x0000000000400aa0:   05
0x0000000000400aa1:   3b
0x0000000000400aa2:   17
0x0000000000400aa3:   20
0x0000000000400aa4:   00
0x0000000000400aa5:   48
0x0000000000400aa6:   89
0x0000000000400aa7:   c6
0x0000000000400aa8:   48
0x0000000000400aa9:   8d
0x0000000000400aaa:   3d
0x0000000000400aab:   24
0x0000000000400aac:   08
0x0000000000400aad:   00
0x0000000000400aae:   00
0x0000000000400aaf:   b8
0x0000000000400ab0:   00
0x0000000000400ab1:   00
0x0000000000400ab2:   00
0x0000000000400ab3:   00
0x0000000000400ab4:   e8
0x0000000000400ab5:   d7
0x0000000000400ab6:   fc
0x0000000000400ab7:   ff
0x0000000000400ab8:   ff
0x0000000000400ab9:   48
0x0000000000400aba:   8d
0x0000000000400abb:   05
0x0000000000400abc:   40
0x0000000000400abd:   17
0x0000000000400abe:   20
0x0000000000400abf:   00
0x0000000000400ac0:   48
0x0000000000400ac1:   89
0x0000000000400ac2:   c6
0x0000000000400ac3:   48
0x0000000000400ac4:   8d
0x0000000000400ac5:   3d
0x0000000000400ac6:   27
0x0000000000400ac7:   08
```

```
0x0000000000400ac8:  00      0x0000000000400af8:  c6      0x0000000000400b28:  5b
0x0000000000400ac9:  00      0x0000000000400af9:  48      0x0000000000400b29:  fd
0x0000000000400aca:  b8      0x0000000000400afa:  8d      0x0000000000400b2a:  ff
0x0000000000400acb:  00      0x0000000000400afb:  3d      0x0000000000400b2b:  ff
0x0000000000400acc:  00      0x0000000000400afc:  27      0x0000000000400b2c:  48
0x0000000000400acd:  00      0x0000000000400afd:  08      0x0000000000400b2d:  89
0x0000000000400ace:  00      0x0000000000400afe:  00      0x0000000000400b2e:  c6
0x0000000000400acf:  e8      0x0000000000400aff:  00      0x0000000000400b2f:  48
0x0000000000400ad0:  bc      0x0000000000400b00:  b8      0x0000000000400b30:  8d
0x0000000000400ad1:  fc      0x0000000000400b01:  00      0x0000000000400b31:  3d
0x0000000000400ad2:  ff      0x0000000000400b02:  00      0x0000000000400b32:  32
0x0000000000400ad3:  ff      0x0000000000400b03:  00      0x0000000000400b33:  08
0x0000000000400ad4:  48      0x0000000000400b04:  00      0x0000000000400b34:  00
0x0000000000400ad5:  8d      0x0000000000400b05:  e8      0x0000000000400b35:  00
0x0000000000400ad6:  05      0x0000000000400b06:  86      0x0000000000400b36:  b8
0x0000000000400ad7:  e5      0x0000000000400b07:  fc      0x0000000000400b37:  00
0x0000000000400ad8:  94      0x0000000000400b08:  ff      0x0000000000400b38:  00
0x0000000000400ad9:  20      0x0000000000400b09:  ff      0x0000000000400b39:  00
0x0000000000400ada:  00      0x0000000000400b0a:  48      0x0000000000400b3a:  00
0x0000000000400adb:  48      0x0000000000400b0b:  8d      0x0000000000400b3b:  e8
0x0000000000400adc:  89      0x0000000000400b0c:  05      0x0000000000400b3c:  50
0x0000000000400add:  c6      0x0000000000400b0d:  c6      0x0000000000400b3d:  fc
0x0000000000400ade:  48      0x0000000000400b0e:  fd      0x0000000000400b3e:  ff
0x0000000000400adf:  8d      0x0000000000400b0f:  ff      0x0000000000400b3f:  ff
0x0000000000400ae0:  3d      0x0000000000400b10:  ff      0x0000000000400b40:  48
0x0000000000400ae1:  27      0x0000000000400b11:  48      0x0000000000400b41:  c7
0x0000000000400ae2:  08      0x0000000000400b12:  89      0x0000000000400b42:  c0
0x0000000000400ae3:  00      0x0000000000400b13:  c6      0x0000000000400b43:  97
0x0000000000400ae4:  00      0x0000000000400b14:  48      0x0000000000400b44:  10
0x0000000000400ae5:  b8      0x0000000000400b15:  8d      0x0000000000400b45:  40
0x0000000000400ae6:  00      0x0000000000400b16:  3d      0x0000000000400b46:  00
0x0000000000400ae7:  00      0x0000000000400b17:  2d      0x0000000000400b47:  48
0x0000000000400ae8:  00      0x0000000000400b18:  08      0x0000000000400b48:  89
0x0000000000400ae9:  00      0x0000000000400b19:  00      0x0000000000400b49:  c6
0x0000000000400aea:  e8      0x0000000000400b1a:  00      0x0000000000400b4a:  48
0x0000000000400aeb:  a1      0x0000000000400b1b:  b8      0x0000000000400b4b:  8d
0x0000000000400aec:  fc      0x0000000000400b1c:  00      0x0000000000400b4c:  3d
0x0000000000400aed:  ff      0x0000000000400b1d:  00      0x0000000000400b4d:  34
0x0000000000400aee:  ff      0x0000000000400b1e:  00      0x0000000000400b4e:  08
0x0000000000400aef:  48      0x0000000000400b1f:  00      0x0000000000400b4f:  00
0x0000000000400af0:  8d      0x0000000000400b20:  e8      0x0000000000400b50:  00
0x0000000000400af1:  05      0x0000000000400b21:  6b      0x0000000000400b51:  b8
0x0000000000400af2:  7a      0x0000000000400b22:  fc      0x0000000000400b52:  00
0x0000000000400af3:  fe      0x0000000000400b23:  ff      0x0000000000400b53:  00
0x0000000000400af4:  ff      0x0000000000400b24:  ff      0x0000000000400b54:  00
0x0000000000400af5:  ff      0x0000000000400b25:  48      0x0000000000400b55:  00
0x0000000000400af6:  48      0x0000000000400b26:  8d      0x0000000000400b56:  e8
0x0000000000400af7:  89      0x0000000000400b27:  05      0x0000000000400b57:  35
```

```
0x0000000000400b58:  fc     0x0000000000400b88:  00     0x0000000000400bb8:  ff
0x0000000000400b59:  ff     0x0000000000400b89:  00     0x0000000000400bb9:  ff
0x0000000000400b5a:  ff     0x0000000000400b8a:  00     0x0000000000400bba:  02
0x0000000000400b5b:  48     0x0000000000400b8b:  00     0x0000000000400bbb:  0f
0x0000000000400b5c:  c7     0x0000000000400b8c:  e8     0x0000000000400bbc:  85
0x0000000000400b5d:  c0     0x0000000000400b8d:  ff     0x0000000000400bbd:  cd
0x0000000000400b5e:  e7     0x0000000000400b8e:  fb     0x0000000000400bbe:  00
0x0000000000400b5f:  10     0x0000000000400b8f:  ff     0x0000000000400bbf:  00
0x0000000000400b60:  40     0x0000000000400b90:  ff     0x0000000000400bc0:  00
0x0000000000400b61:  00     0x0000000000400b91:  b8     0x0000000000400bc1:  48
0x0000000000400b62:  48     0x0000000000400b92:  00     0x0000000000400bc2:  8d
0x0000000000400b63:  89     0x0000000000400b93:  00     0x0000000000400bc3:  35
0x0000000000400b64:  c6     0x0000000000400b94:  00     0x0000000000400bc4:  15
0x0000000000400b65:  48     0x0000000000400b95:  00     0x0000000000400bc5:  08
0x0000000000400b66:  8d     0x0000000000400b96:  e8     0x0000000000400bc6:  00
0x0000000000400b67:  3d     0x0000000000400b97:  ec     0x0000000000400bc7:  00
0x0000000000400b68:  36     0x0000000000400b98:  fc     0x0000000000400bc8:  48
0x0000000000400b69:  08     0x0000000000400b99:  ff     0x0000000000400bc9:  8d
0x0000000000400b6a:  00     0x0000000000400b9a:  ff     0x0000000000400bca:  3d
0x0000000000400b6b:  00     0x0000000000400b9b:  b8     0x0000000000400bcb:  39
0x0000000000400b6c:  b8     0x0000000000400b9c:  00     0x0000000000400bcc:  06
0x0000000000400b6d:  00     0x0000000000400b9d:  00     0x0000000000400bcd:  00
0x0000000000400b6e:  00     0x0000000000400b9e:  00     0x0000000000400bce:  00
0x0000000000400b6f:  00     0x0000000000400b9f:  00     0x0000000000400bcf:  b8
0x0000000000400b70:  00     0x0000000000400ba0:  e8     0x0000000000400bd0:  00
0x0000000000400b71:  e8     0x0000000000400ba1:  f2     0x0000000000400bd1:  00
0x0000000000400b72:  1a     0x0000000000400ba2:  04     0x0000000000400bd2:  00
0x0000000000400b73:  fc     0x0000000000400ba3:  00     0x0000000000400bd3:  00
0x0000000000400b74:  ff     0x0000000000400ba4:  00     0x0000000000400bd4:  e8
0x0000000000400b75:  ff     0x0000000000400ba5:  b8     0x0000000000400bd5:  b7
0x0000000000400b76:  48     0x0000000000400ba6:  00     0x0000000000400bd6:  fb
0x0000000000400b77:  8b     0x0000000000400ba7:  00     0x0000000000400bd7:  ff
0x0000000000400b78:  05     0x0000000000400ba8:  00     0x0000000000400bd8:  ff
0x0000000000400b79:  6b     0x0000000000400ba9:  00     0x0000000000400bd9:  bf
0x0000000000400b7a:  14     0x0000000000400baa:  e8     0x0000000000400bda:  20
0x0000000000400b7b:  20     0x0000000000400bab:  38     0x0000000000400bdb:  a1
0x0000000000400b7c:  00     0x0000000000400bac:  05     0x0000000000400bdc:  07
0x0000000000400b7d:  48     0x0000000000400bad:  00     0x0000000000400bdd:  00
0x0000000000400b7e:  89     0x0000000000400bae:  00     0x0000000000400bde:  e8
0x0000000000400b7f:  c6     0x0000000000400baf:  e9     0x0000000000400bdf:  6d
0x0000000000400b80:  48     0x0000000000400bb0:  13     0x0000000000400be0:  fb
0x0000000000400b81:  8d     0x0000000000400bb1:  04     0x0000000000400be1:  ff
0x0000000000400b82:  3d     0x0000000000400bb2:  00     0x0000000000400be2:  ff
0x0000000000400b83:  38     0x0000000000400bb3:  00     0x0000000000400be3:  48
0x0000000000400b84:  08     0x0000000000400bb4:  83     0x0000000000400be4:  89
0x0000000000400b85:  00     0x0000000000400bb5:  bd     0x0000000000400be5:  85
0x0000000000400b86:  00     0x0000000000400bb6:  f4     0x0000000000400be6:  08
0x0000000000400b87:  b8     0x0000000000400bb7:  fe     0x0000000000400be7:  ff
```

```
0x0000000000400be8:  ff
0x0000000000400be9:  ff
0x0000000000400bea:  bf
0x0000000000400beb:  20
0x0000000000400bec:  a1
0x0000000000400bed:  07
0x0000000000400bee:  00
0x0000000000400bef:  e8
0x0000000000400bf0:  5c
0x0000000000400bf1:  fb
0x0000000000400bf2:  ff
0x0000000000400bf3:  ff
0x0000000000400bf4:  48
0x0000000000400bf5:  89
0x0000000000400bf6:  85
0x0000000000400bf7:  10
0x0000000000400bf8:  ff
0x0000000000400bf9:  ff
0x0000000000400bfa:  ff
0x0000000000400bfb:  bf
0x0000000000400bfc:  20
0x0000000000400bfd:  a1
0x0000000000400bfe:  07
0x0000000000400bff:  00
0x0000000000400c00:  e8
0x0000000000400c01:  4b
0x0000000000400c02:  fb
0x0000000000400c03:  ff
0x0000000000400c04:  ff
0x0000000000400c05:  48
0x0000000000400c06:  89
0x0000000000400c07:  85
0x0000000000400c08:  18
0x0000000000400c09:  ff
0x0000000000400c0a:  ff
0x0000000000400c0b:  ff
0x0000000000400c0c:  bf
0x0000000000400c0d:  20
0x0000000000400c0e:  a1
0x0000000000400c0f:  07
0x0000000000400c10:  00
0x0000000000400c11:  e8
0x0000000000400c12:  3a
0x0000000000400c13:  fb
0x0000000000400c14:  ff
0x0000000000400c15:  ff
0x0000000000400c16:  48
0x0000000000400c17:  89
0x0000000000400c18:  85
0x0000000000400c19:  20
0x0000000000400c1a:  ff
0x0000000000400c1b:  ff
0x0000000000400c1c:  ff
0x0000000000400c1d:  48
0x0000000000400c1e:  8b
0x0000000000400c1f:  85
0x0000000000400c20:  08
0x0000000000400c21:  ff
0x0000000000400c22:  ff
0x0000000000400c23:  ff
0x0000000000400c24:  48
0x0000000000400c25:  89
0x0000000000400c26:  c6
0x0000000000400c27:  48
0x0000000000400c28:  8d
0x0000000000400c29:  3d
0x0000000000400c2a:  b6
0x0000000000400c2b:  07
0x0000000000400c2c:  00
0x0000000000400c2d:  00
0x0000000000400c2e:  b8
0x0000000000400c2f:  00
0x0000000000400c30:  00
0x0000000000400c31:  00
0x0000000000400c32:  00
0x0000000000400c33:  e8
0x0000000000400c34:  58
0x0000000000400c35:  fb
0x0000000000400c36:  ff
0x0000000000400c37:  ff
0x0000000000400c38:  48
0x0000000000400c39:  8b
0x0000000000400c3a:  85
0x0000000000400c3b:  10
0x0000000000400c3c:  ff
0x0000000000400c3d:  ff
0x0000000000400c3e:  ff
0x0000000000400c3f:  48
0x0000000000400c40:  89
0x0000000000400c41:  c6
0x0000000000400c42:  48
0x0000000000400c43:  8d
0x0000000000400c44:  3d
0x0000000000400c45:  b4
0x0000000000400c46:  07
0x0000000000400c47:  00
0x0000000000400c48:  00
0x0000000000400c49:  b8
0x0000000000400c4a:  00
0x0000000000400c4b:  00
0x0000000000400c4c:  00
0x0000000000400c4d:  00
0x0000000000400c4e:  e8
0x0000000000400c4f:  3d
0x0000000000400c50:  fb
0x0000000000400c51:  ff
0x0000000000400c52:  ff
0x0000000000400c53:  48
0x0000000000400c54:  8b
0x0000000000400c55:  85
0x0000000000400c56:  18
0x0000000000400c57:  ff
0x0000000000400c58:  ff
0x0000000000400c59:  ff
0x0000000000400c5a:  48
0x0000000000400c5b:  89
0x0000000000400c5c:  c6
0x0000000000400c5d:  48
0x0000000000400c5e:  8d
0x0000000000400c5f:  3d
0x0000000000400c60:  b2
0x0000000000400c61:  07
0x0000000000400c62:  00
0x0000000000400c63:  00
0x0000000000400c64:  b8
0x0000000000400c65:  00
0x0000000000400c66:  00
0x0000000000400c67:  00
0x0000000000400c68:  00
0x0000000000400c69:  e8
0x0000000000400c6a:  22
0x0000000000400c6b:  fb
0x0000000000400c6c:  ff
0x0000000000400c6d:  ff
0x0000000000400c6e:  48
0x0000000000400c6f:  8b
0x0000000000400c70:  85
0x0000000000400c71:  20
0x0000000000400c72:  ff
0x0000000000400c73:  ff
0x0000000000400c74:  ff
0x0000000000400c75:  48
0x0000000000400c76:  89
0x0000000000400c77:  c6
```

```
0x0000000000400c78:   48      0x0000000000400ca8:   00      0x0000000000400cd8:   00
0x0000000000400c79:   8d      0x0000000000400ca9:   00      0x0000000000400cd9:   b8
0x0000000000400c7a:   3d      0x0000000000400caa:   e8      0x0000000000400cda:   00
0x0000000000400c7b:   b0      0x0000000000400cab:   e1      0x0000000000400cdb:   00
0x0000000000400c7c:   07      0x0000000000400cac:   fa      0x0000000000400cdc:   00
0x0000000000400c7d:   00      0x0000000000400cad:   ff      0x0000000000400cdd:   00
0x0000000000400c7e:   00      0x0000000000400cae:   ff      0x0000000000400cde:   e8
0x0000000000400c7f:   b8      0x0000000000400caf:   bf      0x0000000000400cdf:   ad
0x0000000000400c80:   00      0x0000000000400cb0:   01      0x0000000000400ce0:   fa
0x0000000000400c81:   00      0x0000000000400cb1:   00      0x0000000000400ce1:   ff
0x0000000000400c82:   00      0x0000000000400cb2:   00      0x0000000000400ce2:   ff
0x0000000000400c83:   00      0x0000000000400cb3:   00      0x0000000000400ce3:   ba
0x0000000000400c84:   e8      0x0000000000400cb4:   e8      0x0000000000400ce4:   ff
0x0000000000400c85:   07      0x0000000000400cb5:   1e      0x0000000000400ce5:   01
0x0000000000400c86:   fb      0x0000000000400cb6:   fc      0x0000000000400ce6:   00
0x0000000000400c87:   ff      0x0000000000400cb7:   ff      0x0000000000400ce7:   00
0x0000000000400c88:   ff      0x0000000000400cb8:   ff      0x0000000000400ce8:   be
0x0000000000400c89:   e9      0x0000000000400cb9:   e9      0x0000000000400ce9:   42
0x0000000000400c8a:   39      0x0000000000400cba:   09      0x0000000000400cea:   00
0x0000000000400c8b:   03      0x0000000000400cbb:   03      0x0000000000400ceb:   00
0x0000000000400c8c:   00      0x0000000000400cbc:   00      0x0000000000400cec:   00
0x0000000000400c8d:   00      0x0000000000400cbd:   00      0x0000000000400ced:   48
0x0000000000400c8e:   83      0x0000000000400cbe:   83      0x0000000000400cee:   8d
0x0000000000400c8f:   bd      0x0000000000400cbf:   bd      0x0000000000400cef:   3d
0x0000000000400c90:   f4      0x0000000000400cc0:   f4      0x0000000000400cf0:   62
0x0000000000400c91:   fe      0x0000000000400cc1:   fe      0x0000000000400cf1:   07
0x0000000000400c92:   ff      0x0000000000400cc2:   ff      0x0000000000400cf2:   00
0x0000000000400c93:   ff      0x0000000000400cc3:   ff      0x0000000000400cf3:   00
0x0000000000400c94:   03      0x0000000000400cc4:   04      0x0000000000400cf4:   b8
0x0000000000400c95:   75      0x0000000000400cc5:   0f      0x0000000000400cf5:   00
0x0000000000400c96:   27      0x0000000000400cc6:   85      0x0000000000400cf6:   00
0x0000000000400c97:   48      0x0000000000400cc7:   f1      0x0000000000400cf7:   00
0x0000000000400c98:   8d      0x0000000000400cc8:   00      0x0000000000400cf8:   00
0x0000000000400c99:   35      0x0000000000400cc9:   00      0x0000000000400cf9:   e8
0x0000000000400c9a:   aa      0x0000000000400cca:   00      0x0000000000400cfa:   82
0x0000000000400c9b:   07      0x0000000000400ccb:   48      0x0000000000400cfb:   fa
0x0000000000400c9c:   00      0x0000000000400ccc:   8d      0x0000000000400cfc:   ff
0x0000000000400c9d:   00      0x0000000000400ccd:   35      0x0000000000400cfd:   ff
0x0000000000400c9e:   48      0x0000000000400cce:   7d      0x0000000000400cfe:   89
0x0000000000400c9f:   8d      0x0000000000400ccf:   07      0x0000000000400cff:   85
0x0000000000400ca0:   3d      0x0000000000400cd0:   00      0x0000000000400d00:   04
0x0000000000400ca1:   63      0x0000000000400cd1:   00      0x0000000000400d01:   ff
0x0000000000400ca2:   05      0x0000000000400cd2:   48      0x0000000000400d02:   ff
0x0000000000400ca3:   00      0x0000000000400cd3:   8d      0x0000000000400d03:   ff
0x0000000000400ca4:   00      0x0000000000400cd4:   3d      0x0000000000400d04:   48
0x0000000000400ca5:   b8      0x0000000000400cd5:   2f      0x0000000000400d05:   b8
0x0000000000400ca6:   00      0x0000000000400cd6:   05      0x0000000000400d06:   6d
0x0000000000400ca7:   00      0x0000000000400cd7:   00      0x0000000000400d07:   75
```

```
0x0000000000400d08:  6e     0x0000000000400d38:  89     0x0000000000400d68:  04
0x0000000000400d09:  69     0x0000000000400d39:  ce     0x0000000000400d69:  00
0x0000000000400d0a:  62     0x0000000000400d3a:  89     0x0000000000400d6a:  00
0x0000000000400d0b:  65     0x0000000000400d3b:  c7     0x0000000000400d6b:  48
0x0000000000400d0c:  6d     0x0000000000400d3c:  e8     0x0000000000400d6c:  8b
0x0000000000400d0d:  72     0x0000000000400d3d:  bf     0x0000000000400d6d:  45
0x0000000000400d0e:  48     0x0000000000400d3e:  f9     0x0000000000400d6e:  80
0x0000000000400d0f:  89     0x0000000000400d3f:  ff     0x0000000000400d6f:  48
0x0000000000400d10:  45     0x0000000000400d40:  ff     0x0000000000400d70:  89
0x0000000000400d11:  ed     0x0000000000400d41:  83     0x0000000000400d71:  c6
0x0000000000400d12:  66     0x0000000000400d42:  85     0x0000000000400d72:  8b
0x0000000000400d13:  c7     0x0000000000400d43:  f8     0x0000000000400d73:  85
0x0000000000400d14:  45     0x0000000000400d44:  fe     0x0000000000400d74:  04
0x0000000000400d15:  f5     0x0000000000400d45:  ff     0x0000000000400d75:  ff
0x0000000000400d16:  65     0x0000000000400d46:  ff     0x0000000000400d76:  ff
0x0000000000400d17:  0a     0x0000000000400d47:  01     0x0000000000400d77:  ff
0x0000000000400d18:  c6     0x0000000000400d48:  81     0x0000000000400d78:  41
0x0000000000400d19:  45     0x0000000000400d49:  bd     0x0000000000400d79:  b9
0x0000000000400d1a:  f7     0x0000000000400d4a:  f8     0x0000000000400d7a:  00
0x0000000000400d1b:  00     0x0000000000400d4b:  fe     0x0000000000400d7b:  00
0x0000000000400d1c:  c7     0x0000000000400d4c:  ff     0x0000000000400d7c:  00
0x0000000000400d1d:  85     0x0000000000400d4d:  ff     0x0000000000400d7d:  00
0x0000000000400d1e:  f8     0x0000000000400d4e:  af     0x0000000000400d7e:  41
0x0000000000400d1f:  fe     0x0000000000400d4f:  ad     0x0000000000400d7f:  89
0x0000000000400d20:  ff     0x0000000000400d50:  01     0x0000000000400d80:  c0
0x0000000000400d21:  ff     0x0000000000400d51:  00     0x0000000000400d81:  b9
0x0000000000400d22:  00     0x0000000000400d52:  7e     0x0000000000400d82:  01
0x0000000000400d23:  00     0x0000000000400d53:  d4     0x0000000000400d83:  00
0x0000000000400d24:  00     0x0000000000400d54:  48     0x0000000000400d84:  00
0x0000000000400d25:  00     0x0000000000400d55:  8d     0x0000000000400d85:  00
0x0000000000400d26:  eb     0x0000000000400d56:  95     0x0000000000400d86:  ba
0x0000000000400d27:  20     0x0000000000400d57:  50     0x0000000000400d87:  03
0x0000000000400d28:  48     0x0000000000400d58:  ff     0x0000000000400d88:  00
0x0000000000400d29:  8d     0x0000000000400d59:  ff     0x0000000000400d89:  00
0x0000000000400d2a:  4d     0x0000000000400d5a:  ff     0x0000000000400d8a:  00
0x0000000000400d2b:  ed     0x0000000000400d5b:  8b     0x0000000000400d8b:  bf
0x0000000000400d2c:  8b     0x0000000000400d5c:  85     0x0000000000400d8c:  00
0x0000000000400d2d:  85     0x0000000000400d5d:  04     0x0000000000400d8d:  00
0x0000000000400d2e:  04     0x0000000000400d5e:  ff     0x0000000000400d8e:  00
0x0000000000400d2f:  ff     0x0000000000400d5f:  ff     0x0000000000400d8f:  00
0x0000000000400d30:  ff     0x0000000000400d60:  ff     0x0000000000400d90:  e8
0x0000000000400d31:  ff     0x0000000000400d61:  48     0x0000000000400d91:  8b
0x0000000000400d32:  ba     0x0000000000400d62:  89     0x0000000000400d92:  f9
0x0000000000400d33:  0a     0x0000000000400d63:  d6     0x0000000000400d93:  ff
0x0000000000400d34:  00     0x0000000000400d64:  89     0x0000000000400d94:  ff
0x0000000000400d35:  00     0x0000000000400d65:  c7     0x0000000000400d95:  48
0x0000000000400d36:  00     0x0000000000400d66:  e8     0x0000000000400d96:  89
0x0000000000400d37:  48     0x0000000000400d67:  55     0x0000000000400d97:  85
```

```
0x0000000000400d98:  28      0x0000000000400dc8:  00      0x0000000000400df8:  00
0x0000000000400d99:  ff      0x0000000000400dc9:  48      0x0000000000400df9:  c7
0x0000000000400d9a:  ff      0x0000000000400dca:  8d      0x0000000000400dfa:  85
0x0000000000400d9b:  ff      0x0000000000400dcb:  35      0x0000000000400dfb:  fc
0x0000000000400d9c:  48      0x0000000000400dcc:  b2      0x0000000000400dfc:  fe
0x0000000000400d9d:  8b      0x0000000000400dcd:  06      0x0000000000400dfd:  ff
0x0000000000400d9e:  85      0x0000000000400dce:  00      0x0000000000400dfe:  ff
0x0000000000400d9f:  28      0x0000000000400dcf:  00      0x0000000000400dff:  00
0x0000000000400da0:  ff      0x0000000000400dd0:  48      0x0000000000400e00:  00
0x0000000000400da1:  ff      0x0000000000400dd1:  8d      0x0000000000400e01:  00
0x0000000000400da2:  ff      0x0000000000400dd2:  3d      0x0000000000400e02:  00
0x0000000000400da3:  48      0x0000000000400dd3:  31      0x0000000000400e03:  eb
0x0000000000400da4:  89      0x0000000000400dd4:  04      0x0000000000400e04:  4a
0x0000000000400da5:  c6      0x0000000000400dd5:  00      0x0000000000400e05:  8b
0x0000000000400da6:  48      0x0000000000400dd6:  00      0x0000000000400e06:  8d
0x0000000000400da7:  8d      0x0000000000400dd7:  b8      0x0000000000400e07:  fc
0x0000000000400da8:  3d      0x0000000000400dd8:  00      0x0000000000400e08:  fe
0x0000000000400da9:  b3      0x0000000000400dd9:  00      0x0000000000400e09:  ff
0x0000000000400daa:  06      0x0000000000400dda:  00      0x0000000000400e0a:  ff
0x0000000000400dab:  00      0x0000000000400ddb:  00      0x0000000000400e0b:  ba
0x0000000000400dac:  00      0x0000000000400ddc:  e8      0x0000000000400e0c:  67
0x0000000000400dad:  b8      0x0000000000400ddd:  af      0x0000000000400e0d:  66
0x0000000000400dae:  00      0x0000000000400dde:  f9      0x0000000000400e0e:  66
0x0000000000400daf:  00      0x0000000000400ddf:  ff      0x0000000000400e0f:  66
0x0000000000400db0:  00      0x0000000000400de0:  ff      0x0000000000400e10:  89
0x0000000000400db1:  00      0x0000000000400de1:  48      0x0000000000400e11:  c8
0x0000000000400db2:  e8      0x0000000000400de2:  b8      0x0000000000400e12:  f7
0x0000000000400db3:  d9      0x0000000000400de3:  0a      0x0000000000400e13:  ea
0x0000000000400db4:  f9      0x0000000000400de4:  73      0x0000000000400e14:  c1
0x0000000000400db5:  ff      0x0000000000400de5:  65      0x0000000000400e15:  fa
0x0000000000400db6:  ff      0x0000000000400de6:  76      0x0000000000400e16:  02
0x0000000000400db7:  e9      0x0000000000400de7:  69      0x0000000000400e17:  89
0x0000000000400db8:  0b      0x0000000000400de8:  6c      0x0000000000400e18:  c8
0x0000000000400db9:  02      0x0000000000400de9:  67      0x0000000000400e19:  c1
0x0000000000400dba:  00      0x0000000000400dea:  65      0x0000000000400e1a:  f8
0x0000000000400dbb:  00      0x0000000000400deb:  48      0x0000000000400e1b:  1f
0x0000000000400dbc:  83      0x0000000000400dec:  89      0x0000000000400e1c:  29
0x0000000000400dbd:  bd      0x0000000000400ded:  45      0x0000000000400e1d:  c2
0x0000000000400dbe:  f4      0x0000000000400dee:  ed      0x0000000000400e1e:  89
0x0000000000400dbf:  fe      0x0000000000400def:  66      0x0000000000400e1f:  d0
0x0000000000400dc0:  ff      0x0000000000400df0:  c7      0x0000000000400e20:  c1
0x0000000000400dc1:  ff      0x0000000000400df1:  45      0x0000000000400e21:  e0
0x0000000000400dc2:  05      0x0000000000400df2:  f5      0x0000000000400e22:  02
0x0000000000400dc3:  0f      0x0000000000400df3:  6e      0x0000000000400e23:  01
0x0000000000400dc4:  85      0x0000000000400df4:  0a      0x0000000000400e24:  d0
0x0000000000400dc5:  cf      0x0000000000400df5:  c6      0x0000000000400e25:  01
0x0000000000400dc6:  00      0x0000000000400df6:  45      0x0000000000400e26:  c0
0x0000000000400dc7:  00      0x0000000000400df7:  f7      0x0000000000400e27:  29
```

```
0x0000000000400e28:  c1      0x0000000000400e58:  c7      0x0000000000400e88:  bd
0x0000000000400e29:  89      0x0000000000400e59:  85      0x0000000000400e89:  00
0x0000000000400e2a:  ca      0x0000000000400e5a:  00      0x0000000000400e8a:  ff
0x0000000000400e2b:  8b      0x0000000000400e5b:  ff      0x0000000000400e8b:  ff
0x0000000000400e2c:  85      0x0000000000400e5c:  ff      0x0000000000400e8c:  ff
0x0000000000400e2d:  fc      0x0000000000400e5d:  ff      0x0000000000400e8d:  e7
0x0000000000400e2e:  fe      0x0000000000400e5e:  00      0x0000000000400e8e:  03
0x0000000000400e2f:  ff      0x0000000000400e5f:  00      0x0000000000400e8f:  00
0x0000000000400e30:  ff      0x0000000000400e60:  00      0x0000000000400e90:  00
0x0000000000400e31:  48      0x0000000000400e61:  00      0x0000000000400e91:  7e
0x0000000000400e32:  63      0x0000000000400e62:  eb      0x0000000000400e92:  d1
0x0000000000400e33:  c8      0x0000000000400e63:  23      0x0000000000400e93:  e9
0x0000000000400e34:  48      0x0000000000400e64:  8b      0x0000000000400e94:  2f
0x0000000000400e35:  8b      0x0000000000400e65:  85      0x0000000000400e95:  01
0x0000000000400e36:  85      0x0000000000400e66:  00      0x0000000000400e96:  00
0x0000000000400e37:  28      0x0000000000400e67:  ff      0x0000000000400e97:  00
0x0000000000400e38:  ff      0x0000000000400e68:  ff      0x0000000000400e98:  83
0x0000000000400e39:  ff      0x0000000000400e69:  ff      0x0000000000400e99:  bd
0x0000000000400e3a:  ff      0x0000000000400e6a:  48      0x0000000000400e9a:  f4
0x0000000000400e3b:  48      0x0000000000400e6b:  63      0x0000000000400e9b:  fe
0x0000000000400e3c:  01      0x0000000000400e6c:  d0      0x0000000000400e9c:  ff
0x0000000000400e3d:  c1      0x0000000000400e6d:  48      0x0000000000400e9d:  ff
0x0000000000400e3e:  48      0x0000000000400e6e:  8b      0x0000000000400e9e:  06
0x0000000000400e3f:  63      0x0000000000400e6f:  85      0x0000000000400e9f:  0f
0x0000000000400e40:  c2      0x0000000000400e70:  28      0x0000000000400ea0:  85
0x0000000000400e41:  0f      0x0000000000400e71:  ff      0x0000000000400ea1:  75
0x0000000000400e42:  b6      0x0000000000400e72:  ff      0x0000000000400ea2:  01
0x0000000000400e43:  44      0x0000000000400e73:  ff      0x0000000000400ea3:  00
0x0000000000400e44:  05      0x0000000000400e74:  48      0x0000000000400ea4:  00
0x0000000000400e45:  ed      0x0000000000400e75:  01      0x0000000000400ea5:  48
0x0000000000400e46:  88      0x0000000000400e76:  d0      0x0000000000400ea6:  8d
0x0000000000400e47:  01      0x0000000000400e77:  0f      0x0000000000400ea7:  35
0x0000000000400e48:  83      0x0000000000400e78:  b6      0x0000000000400ea8:  dd
0x0000000000400e49:  85      0x0000000000400e79:  00      0x0000000000400ea9:  05
0x0000000000400e4a:  fc      0x0000000000400e7a:  88      0x0000000000400eaa:  00
0x0000000000400e4b:  fe      0x0000000000400e7b:  85      0x0000000000400eab:  00
0x0000000000400e4c:  ff      0x0000000000400e7c:  f3      0x0000000000400eac:  48
0x0000000000400e4d:  ff      0x0000000000400e7d:  fe      0x0000000000400ead:  8d
0x0000000000400e4e:  01      0x0000000000400e7e:  ff      0x0000000000400eae:  3d
0x0000000000400e4f:  83      0x0000000000400e7f:  ff      0x0000000000400eaf:  55
0x0000000000400e50:  bd      0x0000000000400e80:  83      0x0000000000400eb0:  03
0x0000000000400e51:  fc      0x0000000000400e81:  85      0x0000000000400eb1:  00
0x0000000000400e52:  fe      0x0000000000400e82:  00      0x0000000000400eb2:  00
0x0000000000400e53:  ff      0x0000000000400e83:  ff      0x0000000000400eb3:  b8
0x0000000000400e54:  ff      0x0000000000400e84:  ff      0x0000000000400eb4:  00
0x0000000000400e55:  63      0x0000000000400e85:  ff      0x0000000000400eb5:  00
0x0000000000400e56:  7e      0x0000000000400e86:  01      0x0000000000400eb6:  00
0x0000000000400e57:  ad      0x0000000000400e87:  81      0x0000000000400eb7:  00
```

```
0x0000000000400eb8:  e8     0x0000000000400ee8:  8d     0x0000000000400f18:  40
0x0000000000400eb9:  d3     0x0000000000400ee9:  38     0x0000000000400f19:  ff
0x0000000000400eba:  f8     0x0000000000400eea:  ff     0x0000000000400f1a:  ff
0x0000000000400ebb:  ff     0x0000000000400eeb:  ff     0x0000000000400f1b:  ff
0x0000000000400ebc:  ff     0x0000000000400eec:  ff     0x0000000000400f1c:  48
0x0000000000400ebd:  48     0x0000000000400eed:  48     0x0000000000400f1d:  89
0x0000000000400ebe:  8d     0x0000000000400eee:  89     0x0000000000400f1e:  c6
0x0000000000400ebf:  05     0x0000000000400eef:  c8     0x0000000000400f1f:  48
0x0000000000400ec0:  ac     0x0000000000400ef0:  48     0x0000000000400f20:  8d
0x0000000000400ec1:  fa     0x0000000000400ef1:  c1     0x0000000000400f21:  3d
0x0000000000400ec2:  ff     0x0000000000400ef2:  e8     0x0000000000400f22:  86
0x0000000000400ec3:  ff     0x0000000000400ef3:  05     0x0000000000400f23:  05
0x0000000000400ec4:  48     0x0000000000400ef4:  48     0x0000000000400f24:  00
0x0000000000400ec5:  89     0x0000000000400ef5:  ba     0x0000000000400f25:  00
0x0000000000400ec6:  85     0x0000000000400ef6:  7d     0x0000000000400f26:  b8
0x0000000000400ec7:  38     0x0000000000400ef7:  3f     0x0000000000400f27:  00
0x0000000000400ec8:  ff     0x0000000000400ef8:  35     0x0000000000400f28:  00
0x0000000000400ec9:  ff     0x0000000000400ef9:  5e     0x0000000000400f29:  00
0x0000000000400eca:  ff     0x0000000000400efa:  ba     0x0000000000400f2a:  00
0x0000000000400ecb:  48     0x0000000000400efb:  49     0x0000000000400f2b:  e8
0x0000000000400ecc:  8b     0x0000000000400efc:  0c     0x0000000000400f2c:  60
0x0000000000400ecd:  85     0x0000000000400efd:  02     0x0000000000400f2d:  f8
0x0000000000400ece:  38     0x0000000000400efe:  48     0x0000000000400f2e:  ff
0x0000000000400ecf:  ff     0x0000000000400eff:  f7     0x0000000000400f2f:  ff
0x0000000000400ed0:  ff     0x0000000000400f00:  e2     0x0000000000400f30:  48
0x0000000000400ed1:  ff     0x0000000000400f01:  48     0x0000000000400f31:  8b
0x0000000000400ed2:  48     0x0000000000400f02:  69     0x0000000000400f32:  85
0x0000000000400ed3:  89     0x0000000000400f03:  c2     0x0000000000400f33:  40
0x0000000000400ed4:  c6     0x0000000000400f04:  a0     0x0000000000400f34:  ff
0x0000000000400ed5:  48     0x0000000000400f05:  0f     0x0000000000400f35:  ff
0x0000000000400ed6:  8d     0x0000000000400f06:  00     0x0000000000400f36:  ff
0x0000000000400ed7:  3d     0x0000000000400f07:  00     0x0000000000400f37:  48
0x0000000000400ed8:  b4     0x0000000000400f08:  48     0x0000000000400f38:  29
0x0000000000400ed9:  05     0x0000000000400f09:  29     0x0000000000400f39:  85
0x0000000000400eda:  00     0x0000000000400f0a:  c1     0x0000000000400f3a:  38
0x0000000000400edb:  00     0x0000000000400f0b:  48     0x0000000000400f3b:  ff
0x0000000000400edc:  b8     0x0000000000400f0c:  89     0x0000000000400f3c:  ff
0x0000000000400edd:  00     0x0000000000400f0d:  c8     0x0000000000400f3d:  ff
0x0000000000400ede:  00     0x0000000000400f0e:  48     0x0000000000400f3e:  48
0x0000000000400edf:  00     0x0000000000400f0f:  89     0x0000000000400f3f:  8b
0x0000000000400ee0:  00     0x0000000000400f10:  85     0x0000000000400f40:  85
0x0000000000400ee1:  e8     0x0000000000400f11:  40     0x0000000000400f41:  38
0x0000000000400ee2:  aa     0x0000000000400f12:  ff     0x0000000000400f42:  ff
0x0000000000400ee3:  f8     0x0000000000400f13:  ff     0x0000000000400f43:  ff
0x0000000000400ee4:  ff     0x0000000000400f14:  ff     0x0000000000400f44:  ff
0x0000000000400ee5:  ff     0x0000000000400f15:  48     0x0000000000400f45:  48
0x0000000000400ee6:  48     0x0000000000400f16:  8b     0x0000000000400f46:  89
0x0000000000400ee7:  8b     0x0000000000400f17:  85     0x0000000000400f47:  c6
```

```
0x0000000000400f48:   48        0x0000000000400f78:   ff        0x0000000000400fa8:   b8
0x0000000000400f49:   8d        0x0000000000400f79:   48        0x0000000000400fa9:   00
0x0000000000400f4a:   3d        0x0000000000400f7a:   8b        0x0000000000400faa:   00
0x0000000000400f4b:   71        0x0000000000400f7b:   85        0x0000000000400fab:   00
0x0000000000400f4c:   05        0x0000000000400f7c:   30        0x0000000000400fac:   00
0x0000000000400f4d:   00        0x0000000000400f7d:   ff        0x0000000000400fad:   e8
0x0000000000400f4e:   00        0x0000000000400f7e:   ff        0x0000000000400fae:   de
0x0000000000400f4f:   b8        0x0000000000400f7f:   ff        0x0000000000400faf:   f7
0x0000000000400f50:   00        0x0000000000400f80:   48        0x0000000000400fb0:   ff
0x0000000000400f51:   00        0x0000000000400f81:   01        0x0000000000400fb1:   ff
0x0000000000400f52:   00        0x0000000000400f82:   d0        0x0000000000400fb2:   48
0x0000000000400f53:   00        0x0000000000400f83:   48        0x0000000000400fb3:   83
0x0000000000400f54:   e8        0x0000000000400f84:   89        0x0000000000400fb4:   85
0x0000000000400f55:   37        0x0000000000400f85:   85        0x0000000000400fb5:   30
0x0000000000400f56:   f8        0x0000000000400f86:   48        0x0000000000400fb6:   ff
0x0000000000400f57:   ff        0x0000000000400f87:   ff        0x0000000000400fb7:   ff
0x0000000000400f58:   ff        0x0000000000400f88:   ff        0x0000000000400fb8:   ff
0x0000000000400f59:   48        0x0000000000400f89:   ff        0x0000000000400fb9:   01
0x0000000000400f5a:   8d        0x0000000000400f8a:   48        0x0000000000400fba:   48
0x0000000000400f5b:   3d        0x0000000000400f8b:   8b        0x0000000000400fbb:   81
0x0000000000400f5c:   78        0x0000000000400f8c:   85        0x0000000000400fbc:   bd
0x0000000000400f5d:   05        0x0000000000400f8d:   48        0x0000000000400fbd:   30
0x0000000000400f5e:   00        0x0000000000400f8e:   ff        0x0000000000400fbe:   ff
0x0000000000400f5f:   00        0x0000000000400f8f:   ff        0x0000000000400fbf:   ff
0x0000000000400f60:   e8        0x0000000000400f90:   ff        0x0000000000400fc0:   ff
0x0000000000400f61:   8b        0x0000000000400f91:   0f        0x0000000000400fc1:   9f
0x0000000000400f62:   f7        0x0000000000400f92:   b6        0x0000000000400fc2:   0f
0x0000000000400f63:   ff        0x0000000000400f93:   00        0x0000000000400fc3:   00
0x0000000000400f64:   ff        0x0000000000400f94:   0f        0x0000000000400fc4:   00
0x0000000000400f65:   48        0x0000000000400f95:   b6        0x0000000000400fc5:   76
0x0000000000400f66:   c7        0x0000000000400f96:   d0        0x0000000000400fc6:   ab
0x0000000000400f67:   85        0x0000000000400f97:   48        0x0000000000400fc7:   83
0x0000000000400f68:   30        0x0000000000400f98:   8b        0x0000000000400fc8:   bd
0x0000000000400f69:   ff        0x0000000000400f99:   85        0x0000000000400fc9:   f4
0x0000000000400f6a:   ff        0x0000000000400f9a:   48        0x0000000000400fca:   fe
0x0000000000400f6b:   ff        0x0000000000400f9b:   ff        0x0000000000400fcb:   ff
0x0000000000400f6c:   00        0x0000000000400f9c:   ff        0x0000000000400fcc:   ff
0x0000000000400f6d:   00        0x0000000000400f9d:   ff        0x0000000000400fcd:   05
0x0000000000400f6e:   00        0x0000000000400f9e:   48        0x0000000000400fce:   0f
0x0000000000400f6f:   00        0x0000000000400f9f:   89        0x0000000000400fcf:   8f
0x0000000000400f70:   eb        0x0000000000400fa0:   c6        0x0000000000400fd0:   d4
0x0000000000400f71:   48        0x0000000000400fa1:   48        0x0000000000400fd1:   f9
0x0000000000400f72:   48        0x0000000000400fa2:   8d        0x0000000000400fd2:   ff
0x0000000000400f73:   8b        0x0000000000400fa3:   3d        0x0000000000400fd3:   ff
0x0000000000400f74:   95        0x0000000000400fa4:   47        0x0000000000400fd4:   48
0x0000000000400f75:   38        0x0000000000400fa5:   05        0x0000000000400fd5:   8d
0x0000000000400f76:   ff        0x0000000000400fa6:   00        0x0000000000400fd6:   35
0x0000000000400f77:   ff        0x0000000000400fa7:   00        0x0000000000400fd7:   25
```

```
0x0000000000400fd8:   05
0x0000000000400fd9:   00
0x0000000000400fda:   00
0x0000000000400fdb:   48
0x0000000000400fdc:   8d
0x0000000000400fdd:   3d
0x0000000000400fde:   49
0x0000000000400fdf:   05
0x0000000000400fe0:   00
0x0000000000400fe1:   00
0x0000000000400fe2:   b8
0x0000000000400fe3:   00
0x0000000000400fe4:   00
0x0000000000400fe5:   00
0x0000000000400fe6:   00
0x0000000000400fe7:   e8
0x0000000000400fe8:   a4
0x0000000000400fe9:   f7
0x0000000000400fea:   ff
0x0000000000400feb:   ff
0x0000000000400fec:   e8
0x0000000000400fed:   4f
0x0000000000400fee:   f7
0x0000000000400fef:   ff
0x0000000000400ff0:   ff
0x0000000000400ff1:   88
0x0000000000400ff2:   85
0x0000000000400ff3:   f2
0x0000000000400ff4:   fe
0x0000000000400ff5:   ff
0x0000000000400ff6:   ff
0x0000000000400ff7:   80
0x0000000000400ff8:   bd
0x0000000000400ff9:   f2
0x0000000000400ffa:   fe
0x0000000000400ffb:   ff
0x0000000000400ffc:   ff
0x0000000000400ffd:   6e
0x0000000000400ffe:   74
0x0000000000400fff:   10
0x0000000000401000:   e8
0x0000000000401001:   3b
0x0000000000401002:   f7
0x0000000000401003:   ff
0x0000000000401004:   ff
0x0000000000401005:   88
0x0000000000401006:   85
0x0000000000401007:   f2
0x0000000000401008:   fe
0x0000000000401009:   ff
0x000000000040100a:   ff
0x000000000040100b:   e9
0x000000000040100c:   98
0x000000000040100d:   f9
0x000000000040100e:   ff
0x000000000040100f:   ff
0x0000000000401010:   e8
0x0000000000401011:   2b
0x0000000000401012:   f7
0x0000000000401013:   ff
0x0000000000401014:   ff
0x0000000000401015:   e9
0x0000000000401016:   8e
0x0000000000401017:   f9
0x0000000000401018:   ff
0x0000000000401019:   ff
0x000000000040101a:   90
0x000000000040101b:   48
0x000000000040101c:   8b
0x000000000040101d:   85
0x000000000040101e:   08
0x000000000040101f:   ff
0x0000000000401020:   ff
0x0000000000401021:   ff
0x0000000000401022:   48
0x0000000000401023:   89
0x0000000000401024:   c7
0x0000000000401025:   e8
0x0000000000401026:   a6
0x0000000000401027:   f6
0x0000000000401028:   ff
0x0000000000401029:   ff
0x000000000040102a:   48
0x000000000040102b:   8b
0x000000000040102c:   85
0x000000000040102d:   10
0x000000000040102e:   ff
0x000000000040102f:   ff
0x0000000000401030:   ff
0x0000000000401031:   48
0x0000000000401032:   89
0x0000000000401033:   c7
0x0000000000401034:   e8
0x0000000000401035:   97
0x0000000000401036:   f6
0x0000000000401037:   ff
0x0000000000401038:   ff
0x0000000000401039:   48
0x000000000040103a:   8b
0x000000000040103b:   85
0x000000000040103c:   18
0x000000000040103d:   ff
0x000000000040103e:   ff
0x000000000040103f:   ff
0x0000000000401040:   48
0x0000000000401041:   89
0x0000000000401042:   c7
0x0000000000401043:   e8
0x0000000000401044:   88
0x0000000000401045:   f6
0x0000000000401046:   ff
0x0000000000401047:   ff
0x0000000000401048:   48
0x0000000000401049:   8b
0x000000000040104a:   85
0x000000000040104b:   20
0x000000000040104c:   ff
0x000000000040104d:   ff
0x000000000040104e:   ff
0x000000000040104f:   48
0x0000000000401050:   89
0x0000000000401051:   c7
0x0000000000401052:   e8
0x0000000000401053:   79
0x0000000000401054:   f6
0x0000000000401055:   ff
0x0000000000401056:   ff
0x0000000000401057:   48
0x0000000000401058:   8d
0x0000000000401059:   3d
0x000000000040105a:   f8
0x000000000040105b:   03
0x000000000040105c:   00
0x000000000040105d:   00
0x000000000040105e:   e8
0x000000000040105f:   7d
0x0000000000401060:   f6
0x0000000000401061:   ff
0x0000000000401062:   ff
0x0000000000401063:   48
0x0000000000401064:   8b
0x0000000000401065:   45
0x0000000000401066:   80
0x0000000000401067:   48
```

```
0x0000000000401068:   89
0x0000000000401069:   c2
0x000000000040106a:   48
0x000000000040106b:   8b
0x000000000040106c:   85
0x000000000040106d:   28
0x000000000040106e:   ff
0x000000000040106f:   ff
0x0000000000401070:   ff
0x0000000000401071:   48
0x0000000000401072:   89
0x0000000000401073:   d6
0x0000000000401074:   48
0x0000000000401075:   89
0x0000000000401076:   c7
0x0000000000401077:   e8
0x0000000000401078:   f4
0x0000000000401079:   f6
0x000000000040107a:   ff
0x000000000040107b:   ff
0x000000000040107c:   b8
0x000000000040107d:   00
0x000000000040107e:   00
0x000000000040107f:   00
0x0000000000401080:   00
0x0000000000401081:   48
0x0000000000401082:   8b
0x0000000000401083:   4d
0x0000000000401084:   f8
0x0000000000401085:   64
0x0000000000401086:   48
0x0000000000401087:   33
0x0000000000401088:   0c
0x0000000000401089:   25
0x000000000040108a:   28
0x000000000040108b:   00
0x000000000040108c:   00
0x000000000040108d:   00
0x000000000040108e:   74
0x000000000040108f:   05
0x0000000000401090:   e8
0x0000000000401091:   7b
0x0000000000401092:   f6
0x0000000000401093:   ff
0x0000000000401094:   ff
0x0000000000401095:   c9
0x0000000000401096:   c3
0x0000000000401097:   55
0x0000000000401098:   48
0x0000000000401099:   89
0x000000000040109a:   e5
0x000000000040109b:   c7
0x000000000040109c:   45
0x000000000040109d:   fc
0x000000000040109e:   00
0x000000000040109f:   00
0x00000000004010a0:   00
0x00000000004010a1:   00
0x00000000004010a2:   eb
0x00000000004010a3:   35
0x00000000004010a4:   8b
0x00000000004010a5:   45
0x00000000004010a6:   fc
0x00000000004010a7:   48
0x00000000004010a8:   98
0x00000000004010a9:   48
0x00000000004010aa:   8d
0x00000000004010ab:   14
0x00000000004010ac:   85
0x00000000004010ad:   00
0x00000000004010ae:   00
0x00000000004010af:   00
0x00000000004010b0:   00
0x00000000004010b1:   48
0x00000000004010b2:   8d
0x00000000004010b3:   05
0x00000000004010b4:   a8
0x00000000004010b5:   10
0x00000000004010b6:   20
0x00000000004010b7:   00
0x00000000004010b8:   8b
0x00000000004010b9:   04
0x00000000004010ba:   02
0x00000000004010bb:   8d
0x00000000004010bc:   0c
0x00000000004010bd:   00
0x00000000004010be:   8b
0x00000000004010bf:   45
0x00000000004010c0:   fc
0x00000000004010c1:   48
0x00000000004010c2:   98
0x00000000004010c3:   48
0x00000000004010c4:   8d
0x00000000004010c5:   14
0x00000000004010c6:   85
0x00000000004010c7:   00
0x00000000004010c8:   00
0x00000000004010c9:   00
0x00000000004010ca:   00
0x00000000004010cb:   48
0x00000000004010cc:   8d
0x00000000004010cd:   05
0x00000000004010ce:   8e
0x00000000004010cf:   10
0x00000000004010d0:   20
0x00000000004010d1:   00
0x00000000004010d2:   89
0x00000000004010d3:   0c
0x00000000004010d4:   02
0x00000000004010d5:   83
0x00000000004010d6:   45
0x00000000004010d7:   fc
0x00000000004010d8:   01
0x00000000004010d9:   8b
0x00000000004010da:   05
0x00000000004010db:   61
0x00000000004010dc:   10
0x00000000004010dd:   20
0x00000000004010de:   00
0x00000000004010df:   39
0x00000000004010e0:   45
0x00000000004010e1:   fc
0x00000000004010e2:   7c
0x00000000004010e3:   c0
0x00000000004010e4:   90
0x00000000004010e5:   5d
0x00000000004010e6:   c3
0x00000000004010e7:   55
0x00000000004010e8:   48
0x00000000004010e9:   89
0x00000000004010ea:   e5
0x00000000004010eb:   c7
0x00000000004010ec:   45
0x00000000004010ed:   fc
0x00000000004010ee:   00
0x00000000004010ef:   00
0x00000000004010f0:   00
0x00000000004010f1:   00
0x00000000004010f2:   eb
0x00000000004010f3:   35
0x00000000004010f4:   8b
0x00000000004010f5:   45
0x00000000004010f6:   fc
0x00000000004010f7:   48
```

```
0x00000000004010f8:   98      0x0000000000401128:   01      0x0000000000401158:   20
0x00000000004010f9:   48      0x0000000000401129:   8b      0x0000000000401159:   00
0x00000000004010fa:   8d      0x000000000040112a:   05      0x000000000040115a:   53
0x00000000004010fb:   14      0x000000000040112b:   b1      0x000000000040115b:   41
0x00000000004010fc:   85      0x000000000040112c:   10      0x000000000040115c:   89
0x00000000004010fd:   00      0x000000000040112d:   20      0x000000000040115d:   fd
0x00000000004010fe:   00      0x000000000040112e:   00      0x000000000040115e:   49
0x00000000004010ff:   00      0x000000000040112f:   39      0x000000000040115f:   89
0x0000000000401100:   00      0x0000000000401130:   45      0x0000000000401160:   f6
0x0000000000401101:   48      0x0000000000401131:   fc      0x0000000000401161:   4c
0x0000000000401102:   8d      0x0000000000401132:   7c      0x0000000000401162:   29
0x0000000000401103:   05      0x0000000000401133:   c0      0x0000000000401163:   e5
0x0000000000401104:   f8      0x0000000000401134:   90      0x0000000000401164:   48
0x0000000000401105:   10      0x0000000000401135:   5d      0x0000000000401165:   83
0x0000000000401106:   20      0x0000000000401136:   c3      0x0000000000401166:   ec
0x0000000000401107:   00      0x0000000000401137:   66      0x0000000000401167:   08
0x0000000000401108:   8b      0x0000000000401138:   0f      0x0000000000401168:   48
0x0000000000401109:   04      0x0000000000401139:   1f      0x0000000000401169:   c1
0x000000000040110a:   02      0x000000000040113a:   84      0x000000000040116a:   fd
0x000000000040110b:   8d      0x000000000040113b:   00      0x000000000040116b:   03
0x000000000040110c:   0c      0x000000000040113c:   00      0x000000000040116c:   e8
0x000000000040110d:   00      0x000000000040113d:   00      0x000000000040116d:   2f
0x000000000040110e:   8b      0x000000000040113e:   00      0x000000000040116e:   f5
0x000000000040110f:   45      0x000000000040113f:   00      0x000000000040116f:   ff
0x0000000000401110:   fc      0x0000000000401140:   41      0x0000000000401170:   ff
0x0000000000401111:   48      0x0000000000401141:   57      0x0000000000401171:   48
0x0000000000401112:   98      0x0000000000401142:   41      0x0000000000401172:   85
0x0000000000401113:   48      0x0000000000401143:   56      0x0000000000401173:   ed
0x0000000000401114:   8d      0x0000000000401144:   49      0x0000000000401174:   74
0x0000000000401115:   14      0x0000000000401145:   89      0x0000000000401175:   20
0x0000000000401116:   85      0x0000000000401146:   d7      0x0000000000401176:   31
0x0000000000401117:   00      0x0000000000401147:   41      0x0000000000401177:   db
0x0000000000401118:   00      0x0000000000401148:   55      0x0000000000401178:   0f
0x0000000000401119:   00      0x0000000000401149:   41      0x0000000000401179:   1f
0x000000000040111a:   00      0x000000000040114a:   54      0x000000000040117a:   84
0x000000000040111b:   48      0x000000000040114b:   4c      0x000000000040117b:   00
0x000000000040111c:   8d      0x000000000040114c:   8d      0x000000000040117c:   00
0x000000000040111d:   05      0x000000000040114d:   25      0x000000000040117d:   00
0x000000000040111e:   de      0x000000000040114e:   b6      0x000000000040117e:   00
0x000000000040111f:   10      0x000000000040114f:   0c      0x000000000040117f:   00
0x0000000000401120:   20      0x0000000000401150:   20      0x0000000000401180:   4c
0x0000000000401121:   00      0x0000000000401151:   00      0x0000000000401181:   89
0x0000000000401122:   89      0x0000000000401152:   55      0x0000000000401182:   fa
0x0000000000401123:   0c      0x0000000000401153:   48      0x0000000000401183:   4c
0x0000000000401124:   02      0x0000000000401154:   8d      0x0000000000401184:   89
0x0000000000401125:   83      0x0000000000401155:   2d      0x0000000000401185:   f6
0x0000000000401126:   45      0x0000000000401156:   b6      0x0000000000401186:   44
0x0000000000401127:   fc      0x0000000000401157:   0c      0x0000000000401187:   89
```

```
0x0000000000401188:   ef
0x0000000000401189:   41
0x000000000040118a:   ff
0x000000000040118b:   14
0x000000000040118c:   dc
0x000000000040118d:   48
0x000000000040118e:   83
0x000000000040118f:   c3
0x0000000000401190:   01
0x0000000000401191:   48
0x0000000000401192:   39
0x0000000000401193:   dd
0x0000000000401194:   75
0x0000000000401195:   ea
0x0000000000401196:   48
0x0000000000401197:   83
0x0000000000401198:   c4
0x0000000000401199:   08
0x000000000040119a:   5b
0x000000000040119b:   5d
0x000000000040119c:   41
0x000000000040119d:   5c
0x000000000040119e:   41
0x000000000040119f:   5d
0x00000000004011a0:   41
0x00000000004011a1:   5e
0x00000000004011a2:   41
0x00000000004011a3:   5f
0x00000000004011a4:   c3
0x00000000004011a5:   90
0x00000000004011a6:   66
0x00000000004011a7:   2e
0x00000000004011a8:   0f
0x00000000004011a9:   1f
0x00000000004011aa:   84
0x00000000004011ab:   00
0x00000000004011ac:   00
0x00000000004011ad:   00
0x00000000004011ae:   00
0x00000000004011af:   00
0x00000000004011b0:   f3
0x00000000004011b1:   c3
0x00000000004011b2:   66
0x00000000004011b3:   2e
0x00000000004011b4:   0f
0x00000000004011b5:   1f
0x00000000004011b6:   84
0x00000000004011b7:   00
0x00000000004011b8:   00
0x00000000004011b9:   00
0x00000000004011ba:   00
0x00000000004011bb:   00
0x00000000004011bc:   0f
0x00000000004011bd:   1f
0x00000000004011be:   40
0x00000000004011bf:   00
0x00000000004011c0:   48
0x00000000004011c1:   89
0x00000000004011c2:   f2
0x00000000004011c3:   89
0x00000000004011c4:   fe
0x00000000004011c5:   bf
0x00000000004011c6:   01
0x00000000004011c7:   00
0x00000000004011c8:   00
0x00000000004011c9:   00
0x00000000004011ca:   e9
0x00000000004011cb:   91
0x00000000004011cc:   f5
0x00000000004011cd:   ff
0x00000000004011ce:   ff
0x00000000004011cf:   00
0x00000000004011d0:   48
0x00000000004011d1:   83
0x00000000004011d2:   ec
0x00000000004011d3:   08
0x00000000004011d4:   48
0x00000000004011d5:   83
0x00000000004011d6:   c4
0x00000000004011d7:   08
0x00000000004011d8:   c3
0x00000000004011d9:   00
0x00000000004011da:   00
0x00000000004011db:   00
0x00000000004011dc:   00
0x00000000004011dd:   00
0x00000000004011de:   00
0x00000000004011df:   00
0x00000000004011e0:   01
0x00000000004011e1:   00
0x00000000004011e2:   02
0x00000000004011e3:   00
0x00000000004011e4:   00
0x00000000004011e5:   00
0x00000000004011e6:   00
0x00000000004011e7:   00
0x00000000004011e8:   41
0x00000000004011e9:   64
0x00000000004011ea:   64
0x00000000004011eb:   72
0x00000000004011ec:   65
0x00000000004011ed:   73
0x00000000004011ee:   73
0x00000000004011ef:   20
0x00000000004011f0:   6f
0x00000000004011f1:   66
0x00000000004011f2:   20
0x00000000004011f3:   69
0x00000000004011f4:   09
0x00000000004011f5:   3d
0x00000000004011f6:   20
0x00000000004011f7:   30
0x00000000004011f8:   78
0x00000000004011f9:   25
0x00000000004011fa:   30
0x00000000004011fb:   31
0x00000000004011fc:   36
0x00000000004011fd:   6c
0x00000000004011fe:   78
0x00000000004011ff:   0a
0x0000000000401200:   00
0x0000000000401201:   53
0x0000000000401202:   74
0x0000000000401203:   65
0x0000000000401204:   70
0x0000000000401205:   20
0x0000000000401206:   31
0x0000000000401207:   00
0x0000000000401208:   0a
0x0000000000401209:   25
0x000000000040120a:   73
0x000000000040120b:   0a
0x000000000040120c:   2d
0x000000000040120d:   2d
0x000000000040120e:   2d
0x000000000040120f:   2d
0x0000000000401210:   2d
0x0000000000401211:   2d
0x0000000000401212:   0a
0x0000000000401213:   00
0x0000000000401214:   41
0x0000000000401215:   64
0x0000000000401216:   64
0x0000000000401217:   72
```

```
0x0000000000401218:  65
0x0000000000401219:  73
0x000000000040121a:  73
0x000000000040121b:  20
0x000000000040121c:  6f
0x000000000040121d:  66
0x000000000040121e:  20
0x000000000040121f:  73
0x0000000000401220:  69
0x0000000000401221:  7a
0x0000000000401222:  65
0x0000000000401223:  58
0x0000000000401224:  09
0x0000000000401225:  3d
0x0000000000401226:  20
0x0000000000401227:  30
0x0000000000401228:  78
0x0000000000401229:  25
0x000000000040122a:  30
0x000000000040122b:  31
0x000000000040122c:  36
0x000000000040122d:  6c
0x000000000040122e:  78
0x000000000040122f:  0a
0x0000000000401230:  00
0x0000000000401231:  41
0x0000000000401232:  64
0x0000000000401233:  64
0x0000000000401234:  72
0x0000000000401235:  65
0x0000000000401236:  73
0x0000000000401237:  73
0x0000000000401238:  20
0x0000000000401239:  6f
0x000000000040123a:  66
0x000000000040123b:  20
0x000000000040123c:  78
0x000000000040123d:  09
0x000000000040123e:  09
0x000000000040123f:  3d
0x0000000000401240:  20
0x0000000000401241:  30
0x0000000000401242:  78
0x0000000000401243:  25
0x0000000000401244:  30
0x0000000000401245:  31
0x0000000000401246:  36
0x0000000000401247:  6c
0x0000000000401248:  78
0x0000000000401249:  0a
0x000000000040124a:  00
0x000000000040124b:  41
0x000000000040124c:  64
0x000000000040124d:  64
0x000000000040124e:  72
0x000000000040124f:  65
0x0000000000401250:  73
0x0000000000401251:  73
0x0000000000401252:  20
0x0000000000401253:  6f
0x0000000000401254:  66
0x0000000000401255:  20
0x0000000000401256:  79
0x0000000000401257:  09
0x0000000000401258:  09
0x0000000000401259:  3d
0x000000000040125a:  20
0x000000000040125b:  30
0x000000000040125c:  78
0x000000000040125d:  25
0x000000000040125e:  30
0x000000000040125f:  31
0x0000000000401260:  36
0x0000000000401261:  6c
0x0000000000401262:  78
0x0000000000401263:  0a
0x0000000000401264:  00
0x0000000000401265:  41
0x0000000000401266:  64
0x0000000000401267:  64
0x0000000000401268:  72
0x0000000000401269:  65
0x000000000040126a:  73
0x000000000040126b:  73
0x000000000040126c:  20
0x000000000040126d:  6f
0x000000000040126e:  66
0x000000000040126f:  20
0x0000000000401270:  7a
0x0000000000401271:  09
0x0000000000401272:  09
0x0000000000401273:  3d
0x0000000000401274:  20
0x0000000000401275:  30
0x0000000000401276:  78
0x0000000000401277:  25
0x0000000000401278:  30
0x0000000000401279:  31
0x000000000040127a:  36
0x000000000040127b:  6c
0x000000000040127c:  78
0x000000000040127d:  0a
0x000000000040127e:  00
0x000000000040127f:  41
0x0000000000401280:  64
0x0000000000401281:  64
0x0000000000401282:  72
0x0000000000401283:  65
0x0000000000401284:  73
0x0000000000401285:  73
0x0000000000401286:  20
0x0000000000401287:  6f
0x0000000000401288:  66
0x0000000000401289:  20
0x000000000040128a:  73
0x000000000040128b:  69
0x000000000040128c:  7a
0x000000000040128d:  65
0x000000000040128e:  58
0x000000000040128f:  32
0x0000000000401290:  09
0x0000000000401291:  3d
0x0000000000401292:  20
0x0000000000401293:  30
0x0000000000401294:  78
0x0000000000401295:  25
0x0000000000401296:  30
0x0000000000401297:  31
0x0000000000401298:  36
0x0000000000401299:  6c
0x000000000040129a:  78
0x000000000040129b:  0a
0x000000000040129c:  00
0x000000000040129d:  41
0x000000000040129e:  64
0x000000000040129f:  64
0x00000000004012a0:  72
0x00000000004012a1:  65
0x00000000004012a2:  73
0x00000000004012a3:  73
0x00000000004012a4:  20
0x00000000004012a5:  6f
0x00000000004012a6:  66
0x00000000004012a7:  20
```

```
0x00000000004012a8:   78
0x00000000004012a9:   32
0x00000000004012aa:   09
0x00000000004012ab:   09
0x00000000004012ac:   3d
0x00000000004012ad:   20
0x00000000004012ae:   30
0x00000000004012af:   78
0x00000000004012b0:   25
0x00000000004012b1:   30
0x00000000004012b2:   31
0x00000000004012b3:   36
0x00000000004012b4:   6c
0x00000000004012b5:   78
0x00000000004012b6:   0a
0x00000000004012b7:   00
0x00000000004012b8:   41
0x00000000004012b9:   64
0x00000000004012ba:   64
0x00000000004012bb:   72
0x00000000004012bc:   65
0x00000000004012bd:   73
0x00000000004012be:   73
0x00000000004012bf:   20
0x00000000004012c0:   6f
0x00000000004012c1:   66
0x00000000004012c2:   20
0x00000000004012c3:   79
0x00000000004012c4:   32
0x00000000004012c5:   09
0x00000000004012c6:   09
0x00000000004012c7:   3d
0x00000000004012c8:   20
0x00000000004012c9:   30
0x00000000004012ca:   78
0x00000000004012cb:   25
0x00000000004012cc:   30
0x00000000004012cd:   31
0x00000000004012ce:   36
0x00000000004012cf:   6c
0x00000000004012d0:   78
0x00000000004012d1:   0a
0x00000000004012d2:   00
0x00000000004012d3:   41
0x00000000004012d4:   64
0x00000000004012d5:   64
0x00000000004012d6:   72
0x00000000004012d7:   65
0x00000000004012d8:   73
0x00000000004012d9:   73
0x00000000004012da:   20
0x00000000004012db:   6f
0x00000000004012dc:   66
0x00000000004012dd:   20
0x00000000004012de:   73
0x00000000004012df:   69
0x00000000004012e0:   7a
0x00000000004012e1:   65
0x00000000004012e2:   58
0x00000000004012e3:   33
0x00000000004012e4:   09
0x00000000004012e5:   3d
0x00000000004012e6:   20
0x00000000004012e7:   30
0x00000000004012e8:   78
0x00000000004012e9:   25
0x00000000004012ea:   30
0x00000000004012eb:   31
0x00000000004012ec:   36
0x00000000004012ed:   6c
0x00000000004012ee:   78
0x00000000004012ef:   0a
0x00000000004012f0:   00
0x00000000004012f1:   41
0x00000000004012f2:   64
0x00000000004012f3:   64
0x00000000004012f4:   72
0x00000000004012f5:   65
0x00000000004012f6:   73
0x00000000004012f7:   73
0x00000000004012f8:   20
0x00000000004012f9:   6f
0x00000000004012fa:   66
0x00000000004012fb:   20
0x00000000004012fc:   78
0x00000000004012fd:   33
0x00000000004012fe:   09
0x00000000004012ff:   09
0x0000000000401300:   3d
0x0000000000401301:   20
0x0000000000401302:   30
0x0000000000401303:   78
0x0000000000401304:   25
0x0000000000401305:   30
0x0000000000401306:   31
0x0000000000401307:   36
0x0000000000401308:   6c
0x0000000000401309:   78
0x000000000040130a:   0a
0x000000000040130b:   00
0x000000000040130c:   41
0x000000000040130d:   64
0x000000000040130e:   64
0x000000000040130f:   72
0x0000000000401310:   65
0x0000000000401311:   73
0x0000000000401312:   73
0x0000000000401313:   20
0x0000000000401314:   6f
0x0000000000401315:   66
0x0000000000401316:   20
0x0000000000401317:   79
0x0000000000401318:   33
0x0000000000401319:   09
0x000000000040131a:   09
0x000000000040131b:   3d
0x000000000040131c:   20
0x000000000040131d:   30
0x000000000040131e:   78
0x000000000040131f:   25
0x0000000000401320:   30
0x0000000000401321:   31
0x0000000000401322:   36
0x0000000000401323:   6c
0x0000000000401324:   78
0x0000000000401325:   0a
0x0000000000401326:   00
0x0000000000401327:   41
0x0000000000401328:   64
0x0000000000401329:   64
0x000000000040132a:   72
0x000000000040132b:   65
0x000000000040132c:   73
0x000000000040132d:   73
0x000000000040132e:   20
0x000000000040132f:   6f
0x0000000000401330:   66
0x0000000000401331:   20
0x0000000000401332:   6d
0x0000000000401333:   61
0x0000000000401334:   69
0x0000000000401335:   6e
0x0000000000401336:   09
0x0000000000401337:   09
```

```
0x0000000000401338:  3d      0x0000000000401368:  41      0x0000000000401398:  30
0x0000000000401339:  20      0x0000000000401369:  64      0x0000000000401399:  78
0x000000000040133a:  30      0x000000000040136a:  64      0x000000000040139a:  25
0x000000000040133b:  78      0x000000000040136b:  72      0x000000000040139b:  30
0x000000000040133c:  25      0x000000000040136c:  65      0x000000000040139c:  31
0x000000000040133d:  30      0x000000000040136d:  73      0x000000000040139d:  36
0x000000000040133e:  31      0x000000000040136e:  73      0x000000000040139e:  6c
0x000000000040133f:  36      0x000000000040136f:  20      0x000000000040139f:  78
0x0000000000401340:  6c      0x0000000000401370:  6f      0x00000000004013a0:  0a
0x0000000000401341:  78      0x0000000000401371:  66      0x00000000004013a1:  00
0x0000000000401342:  0a      0x0000000000401372:  20      0x00000000004013a2:  41
0x0000000000401343:  00      0x0000000000401373:  66      0x00000000004013a3:  64
0x0000000000401344:  00      0x0000000000401374:  75      0x00000000004013a4:  64
0x0000000000401345:  00      0x0000000000401375:  6e      0x00000000004013a5:  72
0x0000000000401346:  00      0x0000000000401376:  63      0x00000000004013a6:  65
0x0000000000401347:  00      0x0000000000401377:  31      0x00000000004013a7:  73
0x0000000000401348:  41      0x0000000000401378:  09      0x00000000004013a8:  73
0x0000000000401349:  64      0x0000000000401379:  3d      0x00000000004013a9:  20
0x000000000040134a:  64      0x000000000040137a:  20      0x00000000004013aa:  6f
0x000000000040134b:  72      0x000000000040137b:  30      0x00000000004013ab:  66
0x000000000040134c:  65      0x000000000040137c:  78      0x00000000004013ac:  20
0x000000000040134d:  73      0x000000000040137d:  25      0x00000000004013ad:  66
0x000000000040134e:  73      0x000000000040137e:  30      0x00000000004013ae:  75
0x000000000040134f:  20      0x000000000040137f:  31      0x00000000004013af:  6e
0x0000000000401350:  6f      0x0000000000401380:  36      0x00000000004013b0:  63
0x0000000000401351:  66      0x0000000000401381:  6c      0x00000000004013b1:  33
0x0000000000401352:  20      0x0000000000401382:  78      0x00000000004013b2:  09
0x0000000000401353:  72      0x0000000000401383:  0a      0x00000000004013b3:  3d
0x0000000000401354:  65      0x0000000000401384:  00      0x00000000004013b4:  20
0x0000000000401355:  63      0x0000000000401385:  41      0x00000000004013b5:  30
0x0000000000401356:  5f      0x0000000000401386:  64      0x00000000004013b6:  78
0x0000000000401357:  66      0x0000000000401387:  64      0x00000000004013b7:  25
0x0000000000401358:  75      0x0000000000401388:  72      0x00000000004013b8:  30
0x0000000000401359:  6e      0x0000000000401389:  65      0x00000000004013b9:  31
0x000000000040135a:  63      0x000000000040138a:  73      0x00000000004013ba:  36
0x000000000040135b:  09      0x000000000040138b:  73      0x00000000004013bb:  6c
0x000000000040135c:  3d      0x000000000040138c:  20      0x00000000004013bc:  78
0x000000000040135d:  20      0x000000000040138d:  6f      0x00000000004013bd:  0a
0x000000000040135e:  30      0x000000000040138e:  66      0x00000000004013be:  00
0x000000000040135f:  78      0x000000000040138f:  20      0x00000000004013bf:  41
0x0000000000401360:  25      0x0000000000401390:  66      0x00000000004013c0:  64
0x0000000000401361:  30      0x0000000000401391:  75      0x00000000004013c1:  64
0x0000000000401362:  31      0x0000000000401392:  6e      0x00000000004013c2:  72
0x0000000000401363:  36      0x0000000000401393:  63      0x00000000004013c3:  65
0x0000000000401364:  6c      0x0000000000401394:  32      0x00000000004013c4:  73
0x0000000000401365:  78      0x0000000000401395:  09      0x00000000004013c5:  73
0x0000000000401366:  0a      0x0000000000401396:  3d      0x00000000004013c6:  20
0x0000000000401367:  00      0x0000000000401397:  20      0x00000000004013c7:  6f
```

```
0x00000000004013c8:   66
0x00000000004013c9:   20
0x00000000004013ca:   70
0x00000000004013cb:   72
0x00000000004013cc:   69
0x00000000004013cd:   6e
0x00000000004013ce:   74
0x00000000004013cf:   66
0x00000000004013d0:   09
0x00000000004013d1:   3d
0x00000000004013d2:   20
0x00000000004013d3:   30
0x00000000004013d4:   78
0x00000000004013d5:   25
0x00000000004013d6:   30
0x00000000004013d7:   31
0x00000000004013d8:   36
0x00000000004013d9:   6c
0x00000000004013da:   78
0x00000000004013db:   0a
0x00000000004013dc:   00
0x00000000004013dd:   53
0x00000000004013de:   74
0x00000000004013df:   65
0x00000000004013e0:   70
0x00000000004013e1:   20
0x00000000004013e2:   32
0x00000000004013e3:   00
0x00000000004013e4:   41
0x00000000004013e5:   64
0x00000000004013e6:   64
0x00000000004013e7:   72
0x00000000004013e8:   65
0x00000000004013e9:   73
0x00000000004013ea:   73
0x00000000004013eb:   20
0x00000000004013ec:   6f
0x00000000004013ed:   66
0x00000000004013ee:   20
0x00000000004013ef:   61
0x00000000004013f0:   09
0x00000000004013f1:   3d
0x00000000004013f2:   20
0x00000000004013f3:   30
0x00000000004013f4:   78
0x00000000004013f5:   25
0x00000000004013f6:   30
0x00000000004013f7:   31
0x00000000004013f8:   36
0x00000000004013f9:   6c
0x00000000004013fa:   78
0x00000000004013fb:   0a
0x00000000004013fc:   00
0x00000000004013fd:   41
0x00000000004013fe:   64
0x00000000004013ff:   64
0x0000000000401400:   72
0x0000000000401401:   65
0x0000000000401402:   73
0x0000000000401403:   73
0x0000000000401404:   20
0x0000000000401405:   6f
0x0000000000401406:   66
0x0000000000401407:   20
0x0000000000401408:   62
0x0000000000401409:   09
0x000000000040140a:   3d
0x000000000040140b:   20
0x000000000040140c:   30
0x000000000040140d:   78
0x000000000040140e:   25
0x000000000040140f:   30
0x0000000000401410:   31
0x0000000000401411:   36
0x0000000000401412:   6c
0x0000000000401413:   78
0x0000000000401414:   0a
0x0000000000401415:   00
0x0000000000401416:   41
0x0000000000401417:   64
0x0000000000401418:   64
0x0000000000401419:   72
0x000000000040141a:   65
0x000000000040141b:   73
0x000000000040141c:   73
0x000000000040141d:   20
0x000000000040141e:   6f
0x000000000040141f:   66
0x0000000000401420:   20
0x0000000000401421:   63
0x0000000000401422:   09
0x0000000000401423:   3d
0x0000000000401424:   20
0x0000000000401425:   30
0x0000000000401426:   78
0x0000000000401427:   25
0x0000000000401428:   30
0x0000000000401429:   31
0x000000000040142a:   36
0x000000000040142b:   6c
0x000000000040142c:   78
0x000000000040142d:   0a
0x000000000040142e:   00
0x000000000040142f:   41
0x0000000000401430:   64
0x0000000000401431:   64
0x0000000000401432:   72
0x0000000000401433:   65
0x0000000000401434:   73
0x0000000000401435:   73
0x0000000000401436:   20
0x0000000000401437:   6f
0x0000000000401438:   66
0x0000000000401439:   20
0x000000000040143a:   64
0x000000000040143b:   09
0x000000000040143c:   3d
0x000000000040143d:   20
0x000000000040143e:   30
0x000000000040143f:   78
0x0000000000401440:   25
0x0000000000401441:   30
0x0000000000401442:   31
0x0000000000401443:   36
0x0000000000401444:   6c
0x0000000000401445:   78
0x0000000000401446:   0a
0x0000000000401447:   00
0x0000000000401448:   53
0x0000000000401449:   74
0x000000000040144a:   65
0x000000000040144b:   70
0x000000000040144c:   20
0x000000000040144d:   33
0x000000000040144e:   00
0x000000000040144f:   53
0x0000000000401450:   74
0x0000000000401451:   65
0x0000000000401452:   70
0x0000000000401453:   20
0x0000000000401454:   34
0x0000000000401455:   00
0x0000000000401456:   2e
0x0000000000401457:   2f
```

```
0x0000000000401458:   66
0x0000000000401459:   69
0x000000000040145a:   6c
0x000000000040145b:   65
0x000000000040145c:   00
0x000000000040145d:   00
0x000000000040145e:   00
0x000000000040145f:   00
0x0000000000401460:   41
0x0000000000401461:   64
0x0000000000401462:   64
0x0000000000401463:   72
0x0000000000401464:   65
0x0000000000401465:   73
0x0000000000401466:   73
0x0000000000401467:   20
0x0000000000401468:   6f
0x0000000000401469:   66
0x000000000040146a:   20
0x000000000040146b:   6d
0x000000000040146c:   6d
0x000000000040146d:   61
0x000000000040146e:   70
0x000000000040146f:   65
0x0000000000401470:   64
0x0000000000401471:   44
0x0000000000401472:   61
0x0000000000401473:   74
0x0000000000401474:   61
0x0000000000401475:   09
0x0000000000401476:   3d
0x0000000000401477:   20
0x0000000000401478:   30
0x0000000000401479:   78
0x000000000040147a:   25
0x000000000040147b:   30
0x000000000040147c:   31
0x000000000040147d:   36
0x000000000040147e:   6c
0x000000000040147f:   78
0x0000000000401480:   0a
0x0000000000401481:   00
0x0000000000401482:   53
0x0000000000401483:   74
0x0000000000401484:   65
0x0000000000401485:   70
0x0000000000401486:   20
0x0000000000401487:   35
0x0000000000401488:   00
0x0000000000401489:   53
0x000000000040148a:   74
0x000000000040148b:   65
0x000000000040148c:   70
0x000000000040148d:   20
0x000000000040148e:   36
0x000000000040148f:   00
0x0000000000401490:   41
0x0000000000401491:   64
0x0000000000401492:   64
0x0000000000401493:   72
0x0000000000401494:   65
0x0000000000401495:   73
0x0000000000401496:   73
0x0000000000401497:   20
0x0000000000401498:   6f
0x0000000000401499:   66
0x000000000040149a:   20
0x000000000040149b:   6d
0x000000000040149c:   61
0x000000000040149d:   69
0x000000000040149e:   6e
0x000000000040149f:   09
0x00000000004014a0:   3d
0x00000000004014a1:   20
0x00000000004014a2:   30
0x00000000004014a3:   78
0x00000000004014a4:   25
0x00000000004014a5:   30
0x00000000004014a6:   31
0x00000000004014a7:   36
0x00000000004014a8:   6c
0x00000000004014a9:   78
0x00000000004014aa:   0a
0x00000000004014ab:   00
0x00000000004014ac:   4f
0x00000000004014ad:   66
0x00000000004014ae:   66
0x00000000004014af:   73
0x00000000004014b0:   65
0x00000000004014b1:   74
0x00000000004014b2:   09
0x00000000004014b3:   09
0x00000000004014b4:   3d
0x00000000004014b5:   20
0x00000000004014b6:   30
0x00000000004014b7:   78
0x00000000004014b8:   25
0x00000000004014b9:   30
0x00000000004014ba:   31
0x00000000004014bb:   36
0x00000000004014bc:   6c
0x00000000004014bd:   78
0x00000000004014be:   0a
0x00000000004014bf:   00
0x00000000004014c0:   50
0x00000000004014c1:   61
0x00000000004014c2:   67
0x00000000004014c3:   65
0x00000000004014c4:   20
0x00000000004014c5:   61
0x00000000004014c6:   64
0x00000000004014c7:   72
0x00000000004014c8:   65
0x00000000004014c9:   73
0x00000000004014ca:   73
0x00000000004014cb:   09
0x00000000004014cc:   3d
0x00000000004014cd:   20
0x00000000004014ce:   30
0x00000000004014cf:   78
0x00000000004014d0:   25
0x00000000004014d1:   30
0x00000000004014d2:   31
0x00000000004014d3:   36
0x00000000004014d4:   6c
0x00000000004014d5:   78
0x00000000004014d6:   0a
0x00000000004014d7:   00
0x00000000004014d8:   0a
0x00000000004014d9:   43
0x00000000004014da:   6f
0x00000000004014db:   6e
0x00000000004014dc:   74
0x00000000004014dd:   65
0x00000000004014de:   6e
0x00000000004014df:   74
0x00000000004014e0:   20
0x00000000004014e1:   6f
0x00000000004014e2:   66
0x00000000004014e3:   20
0x00000000004014e4:   74
0x00000000004014e5:   68
0x00000000004014e6:   65
0x00000000004014e7:   20
```

```
0x00000000004014e8:  70
0x00000000004014e9:  61
0x00000000004014ea:  67
0x00000000004014eb:  65
0x00000000004014ec:  3a
0x00000000004014ed:  20
0x00000000004014ee:  00
0x00000000004014ef:  30
0x00000000004014f0:  78
0x00000000004014f1:  25
0x00000000004014f2:  30
0x00000000004014f3:  31
0x00000000004014f4:  36
0x00000000004014f5:  6c
0x00000000004014f6:  78
0x00000000004014f7:  3a
0x00000000004014f8:  09
0x00000000004014f9:  20
0x00000000004014fa:  25
0x00000000004014fb:  30
0x00000000004014fc:  32
0x00000000004014fd:  78
0x00000000004014fe:  0a
0x00000000004014ff:  00
0x0000000000401500:  45
0x0000000000401501:  6e
0x0000000000401502:  74
0x0000000000401503:  65
0x0000000000401504:  72
0x0000000000401505:  20
0x0000000000401506:  6e
0x0000000000401507:  20
0x0000000000401508:  74
0x0000000000401509:  6f
0x000000000040150a:  20
0x000000000040150b:  67
0x000000000040150c:  65
0x000000000040150d:  74
0x000000000040150e:  20
0x000000000040150f:  74
0x0000000000401510:  68
0x0000000000401511:  65
0x0000000000401512:  20
0x0000000000401513:  6f
0x0000000000401514:  75
0x0000000000401515:  74
0x0000000000401516:  70
0x0000000000401517:  75
0x0000000000401518:  74
0x0000000000401519:  20
0x000000000040151a:  6f
0x000000000040151b:  66
0x000000000040151c:  20
0x000000000040151d:  74
0x000000000040151e:  68
0x000000000040151f:  65
0x0000000000401520:  20
0x0000000000401521:  6e
0x0000000000401522:  65
0x0000000000401523:  78
0x0000000000401524:  74
0x0000000000401525:  20
0x0000000000401526:  73
0x0000000000401527:  74
0x0000000000401528:  65
0x0000000000401529:  70
0x000000000040152a:  00
0x000000000040152b:  0a
0x000000000040152c:  25
0x000000000040152d:  73
0x000000000040152e:  3a
0x000000000040152f:  20
0x0000000000401530:  00
0x0000000000401531:  00
0x0000000000401532:  00
0x0000000000401533:  00
0x0000000000401534:  01
0x0000000000401535:  1b
0x0000000000401536:  03
0x0000000000401537:  3b
0x0000000000401538:  68
0x0000000000401539:  00
0x000000000040153a:  00
0x000000000040153b:  00
0x000000000040153c:  0c
0x000000000040153d:  00
0x000000000040153e:  00
0x000000000040153f:  00
0x0000000000401540:  8c
0x0000000000401541:  f1
0x0000000000401542:  ff
0x0000000000401543:  ff
0x0000000000401544:  c4
0x0000000000401545:  00
0x0000000000401546:  00
0x0000000000401547:  00
0x0000000000401548:  5c
0x0000000000401549:  f2
0x000000000040154a:  ff
0x000000000040154b:  ff
0x000000000040154c:  ec
0x000000000040154d:  00
0x000000000040154e:  00
0x000000000040154f:  00
0x0000000000401550:  6c
0x0000000000401551:  f2
0x0000000000401552:  ff
0x0000000000401553:  ff
0x0000000000401554:  84
0x0000000000401555:  00
0x0000000000401556:  00
0x0000000000401557:  00
0x0000000000401558:  9c
0x0000000000401559:  f2
0x000000000040155a:  ff
0x000000000040155b:  ff
0x000000000040155c:  b0
0x000000000040155d:  00
0x000000000040155e:  00
0x000000000040155f:  00
0x0000000000401560:  53
0x0000000000401561:  f3
0x0000000000401562:  ff
0x0000000000401563:  ff
0x0000000000401564:  04
0x0000000000401565:  01
0x0000000000401566:  00
0x0000000000401567:  00
0x0000000000401568:  a3
0x0000000000401569:  f3
0x000000000040156a:  ff
0x000000000040156b:  ff
0x000000000040156c:  24
0x000000000040156d:  01
0x000000000040156e:  00
0x000000000040156f:  00
0x0000000000401570:  3c
0x0000000000401571:  f4
0x0000000000401572:  ff
0x0000000000401573:  ff
0x0000000000401574:  44
0x0000000000401575:  01
0x0000000000401576:  00
0x0000000000401577:  00
```

```
0x0000000000401578:	63
0x0000000000401579:	fb
0x000000000040157a:	ff
0x000000000040157b:	ff
0x000000000040157c:	64
0x000000000040157d:	01
0x000000000040157e:	00
0x000000000040157f:	00
0x0000000000401580:	b3
0x0000000000401581:	fb
0x0000000000401582:	ff
0x0000000000401583:	ff
0x0000000000401584:	84
0x0000000000401585:	01
0x0000000000401586:	00
0x0000000000401587:	00
0x0000000000401588:	0c
0x0000000000401589:	fc
0x000000000040158a:	ff
0x000000000040158b:	ff
0x000000000040158c:	a4
0x000000000040158d:	01
0x000000000040158e:	00
0x000000000040158f:	00
0x0000000000401590:	7c
0x0000000000401591:	fc
0x0000000000401592:	ff
0x0000000000401593:	ff
0x0000000000401594:	ec
0x0000000000401595:	01
0x0000000000401596:	00
0x0000000000401597:	00
0x0000000000401598:	8c
0x0000000000401599:	fc
0x000000000040159a:	ff
0x000000000040159b:	ff
0x000000000040159c:	04
0x000000000040159d:	02
0x000000000040159e:	00
0x000000000040159f:	00
0x00000000004015a0:	14
0x00000000004015a1:	00
0x00000000004015a2:	00
0x00000000004015a3:	00
0x00000000004015a4:	00
0x00000000004015a5:	00
0x00000000004015a6:	00
0x00000000004015a7:	00
0x00000000004015a8:	01
0x00000000004015a9:	7a
0x00000000004015aa:	52
0x00000000004015ab:	00
0x00000000004015ac:	01
0x00000000004015ad:	78
0x00000000004015ae:	10
0x00000000004015af:	01
0x00000000004015b0:	1b
0x00000000004015b1:	0c
0x00000000004015b2:	07
0x00000000004015b3:	08
0x00000000004015b4:	90
0x00000000004015b5:	01
0x00000000004015b6:	07
0x00000000004015b7:	10
0x00000000004015b8:	10
0x00000000004015b9:	00
0x00000000004015ba:	00
0x00000000004015bb:	00
0x00000000004015bc:	1c
0x00000000004015bd:	00
0x00000000004015be:	00
0x00000000004015bf:	00
0x00000000004015c0:	e0
0x00000000004015c1:	f1
0x00000000004015c2:	ff
0x00000000004015c3:	ff
0x00000000004015c4:	2b
0x00000000004015c5:	00
0x00000000004015c6:	00
0x00000000004015c7:	00
0x00000000004015c8:	00
0x00000000004015c9:	00
0x00000000004015ca:	00
0x00000000004015cb:	00
0x00000000004015cc:	14
0x00000000004015cd:	00
0x00000000004015ce:	00
0x00000000004015cf:	00
0x00000000004015d0:	00
0x00000000004015d1:	00
0x00000000004015d2:	00
0x00000000004015d3:	00
0x00000000004015d4:	01
0x00000000004015d5:	7a
0x00000000004015d6:	52
0x00000000004015d7:	00
0x00000000004015d8:	01
0x00000000004015d9:	78
0x00000000004015da:	10
0x00000000004015db:	01
0x00000000004015dc:	1b
0x00000000004015dd:	0c
0x00000000004015de:	07
0x00000000004015df:	08
0x00000000004015e0:	90
0x00000000004015e1:	01
0x00000000004015e2:	00
0x00000000004015e3:	00
0x00000000004015e4:	10
0x00000000004015e5:	00
0x00000000004015e6:	00
0x00000000004015e7:	00
0x00000000004015e8:	1c
0x00000000004015e9:	00
0x00000000004015ea:	00
0x00000000004015eb:	00
0x00000000004015ec:	e4
0x00000000004015ed:	f1
0x00000000004015ee:	ff
0x00000000004015ef:	ff
0x00000000004015f0:	02
0x00000000004015f1:	00
0x00000000004015f2:	00
0x00000000004015f3:	00
0x00000000004015f4:	00
0x00000000004015f5:	00
0x00000000004015f6:	00
0x00000000004015f7:	00
0x00000000004015f8:	24
0x00000000004015f9:	00
0x00000000004015fa:	00
0x00000000004015fb:	00
0x00000000004015fc:	30
0x00000000004015fd:	00
0x00000000004015fe:	00
0x00000000004015ff:	00
0x0000000000401600:	c0
0x0000000000401601:	f0
0x0000000000401602:	ff
0x0000000000401603:	ff
0x0000000000401604:	d0
0x0000000000401605:	00
0x0000000000401606:	00
0x0000000000401607:	00
```

```
0x0000000000401608:   00
0x0000000000401609:   0e
0x000000000040160a:   10
0x000000000040160b:   46
0x000000000040160c:   0e
0x000000000040160d:   18
0x000000000040160e:   4a
0x000000000040160f:   0f
0x0000000000401610:   0b
0x0000000000401611:   77
0x0000000000401612:   08
0x0000000000401613:   80
0x0000000000401614:   00
0x0000000000401615:   3f
0x0000000000401616:   1a
0x0000000000401617:   3b
0x0000000000401618:   2a
0x0000000000401619:   33
0x000000000040161a:   24
0x000000000040161b:   22
0x000000000040161c:   00
0x000000000040161d:   00
0x000000000040161e:   00
0x000000000040161f:   00
0x0000000000401620:   14
0x0000000000401621:   00
0x0000000000401622:   00
0x0000000000401623:   00
0x0000000000401624:   58
0x0000000000401625:   00
0x0000000000401626:   00
0x0000000000401627:   00
0x0000000000401628:   68
0x0000000000401629:   f1
0x000000000040162a:   ff
0x000000000040162b:   ff
0x000000000040162c:   08
0x000000000040162d:   00
0x000000000040162e:   00
0x000000000040162f:   00
0x0000000000401630:   00
0x0000000000401631:   00
0x0000000000401632:   00
0x0000000000401633:   00
0x0000000000401634:   00
0x0000000000401635:   00
0x0000000000401636:   00
0x0000000000401637:   00
0x0000000000401638:   1c
0x0000000000401639:   00
0x000000000040163a:   00
0x000000000040163b:   00
0x000000000040163c:   70
0x000000000040163d:   00
0x000000000040163e:   00
0x000000000040163f:   00
```

The output of the objdump command for executable object file:

```
./app:     file format elf64-x86-64
./app
architecture: i386:x86-64, flags 0x00000112:
EXEC_P, HAS_SYMS, D_PAGED
start address 0x00000000004007a0

Program Header:
    PHDR off    0x0000000000000040 vaddr 0x0000000000400040 paddr 0x0000000000400040 align
2**3
         filesz 0x00000000000001f8 memsz 0x00000000000001f8 flags r--
  INTERP off    0x0000000000000238 vaddr 0x0000000000400238 paddr 0x0000000000400238 align
2**0
         filesz 0x000000000000001c memsz 0x000000000000001c flags r--
    LOAD off    0x0000000000000000 vaddr 0x0000000000400000 paddr 0x0000000000400000 align
2**21
         filesz 0x0000000000001750 memsz 0x0000000000001750 flags r-x
    LOAD off    0x0000000000001e08 vaddr 0x0000000000601e08 paddr 0x0000000000601e08 align
2**21
         filesz 0x0000000000000478 memsz 0x000000000000c038 flags rw-
 DYNAMIC off    0x0000000000001e18 vaddr 0x0000000000601e18 paddr 0x0000000000601e18 align
2**3
         filesz 0x00000000000001d0 memsz 0x00000000000001d0 flags rw-
    NOTE off    0x0000000000000254 vaddr 0x0000000000400254 paddr 0x0000000000400254 align
2**2
         filesz 0x0000000000000044 memsz 0x0000000000000044 flags r--
EH_FRAME off    0x0000000000001534 vaddr 0x0000000000401534 paddr 0x0000000000401534 align
2**2
         filesz 0x000000000000006c memsz 0x000000000000006c flags r--
   STACK off    0x0000000000000000 vaddr 0x0000000000000000 paddr 0x0000000000000000 align
2**4
         filesz 0x0000000000000000 memsz 0x0000000000000000 flags rw-
   RELRO off    0x0000000000001e08 vaddr 0x0000000000601e08 paddr 0x0000000000601e08 align
2**0
         filesz 0x00000000000001f8 memsz 0x00000000000001f8 flags r--

Dynamic Section:
  NEEDED               libc.so.6
  INIT                 0x00000000004006a0
  FINI                 0x00000000004011d0
  INIT_ARRAY           0x0000000000601e08
  INIT_ARRAYSZ         0x0000000000000008
  FINI_ARRAY           0x0000000000601e10
  FINI_ARRAYSZ         0x0000000000000008
  GNU_HASH             0x0000000000400298
  STRTAB               0x0000000000400440
  SYMTAB               0x00000000004002c0
  STRSZ                0x00000000000000a1
  SYMENT               0x0000000000000018
  DEBUG                0x0000000000000000
  PLTGOT               0x0000000000602000
  PLTRELSZ             0x0000000000000120
  PLTREL               0x0000000000000007
  JMPREL               0x0000000000400580
  RELA                 0x0000000000400538
  RELASZ               0x0000000000000048
  RELAENT              0x0000000000000018
  VERNEED              0x0000000000400508
  VERNEEDNUM           0x0000000000000001
  VERSYM               0x00000000004004e2

Version References:
  required from libc.so.6:
    0x0d696914 0x00 03 GLIBC_2.4
    0x09691a75 0x00 02 GLIBC_2.2.5

Sections:
Idx Name          Size      VMA               LMA               File off  Algn
  0 .interp       0000001c  0000000000400238  0000000000400238  00000238  2**0
                  CONTENTS, ALLOC, LOAD, READONLY, DATA
  1 .note.ABI-tag 00000020  0000000000400254  0000000000400254  00000254  2**2
                  CONTENTS, ALLOC, LOAD, READONLY, DATA
  2 .note.gnu.build-id 00000024  0000000000400274  0000000000400274  00000274  2**2
                  CONTENTS, ALLOC, LOAD, READONLY, DATA
  3 .gnu.hash     00000024  0000000000400298  0000000000400298  00000298  2**3
                  CONTENTS, ALLOC, LOAD, READONLY, DATA
  4 .dynsym       00000180  00000000004002c0  00000000004002c0  000002c0  2**3
                  CONTENTS, ALLOC, LOAD, READONLY, DATA
  5 .dynstr       000000a1  0000000000400440  0000000000400440  00000440  2**0
                  CONTENTS, ALLOC, LOAD, READONLY, DATA
  6 .gnu.version  00000020  00000000004004e2  00000000004004e2  000004e2  2**1
                  CONTENTS, ALLOC, LOAD, READONLY, DATA
  7 .gnu.version_r 00000030  0000000000400508  0000000000400508  00000508  2**3
                  CONTENTS, ALLOC, LOAD, READONLY, DATA
  8 .rela.dyn     00000048  0000000000400538  0000000000400538  00000538  2**3
                  CONTENTS, ALLOC, LOAD, READONLY, DATA
  9 .rela.plt     00000120  0000000000400580  0000000000400580  00000580  2**3
                  CONTENTS, ALLOC, LOAD, READONLY, DATA
 10 .init         00000017  00000000004006a0  00000000004006a0  000006a0  2**2
                  CONTENTS, ALLOC, LOAD, READONLY, CODE
 11 .plt          000000d0  00000000004006c0  00000000004006c0  000006c0  2**4
                  CONTENTS, ALLOC, LOAD, READONLY, CODE
 12 .plt.got      00000008  0000000000400790  0000000000400790  00000790  2**3
                  CONTENTS, ALLOC, LOAD, READONLY, CODE
 13 .text         00000a2f  00000000004007a0  00000000004007a0  000007a0  2**4
                  CONTENTS, ALLOC, LOAD, READONLY, CODE
 14 .fini         00000009  00000000004011d0  00000000004011d0  000011d0  2**2
                  CONTENTS, ALLOC, LOAD, READONLY, CODE
 15 .rodata       00000351  00000000004011e0  00000000004011e0  000011e0  2**3
                  CONTENTS, ALLOC, LOAD, READONLY, DATA
 16 .eh_frame_hdr 0000006c  0000000000401534  0000000000401534  00001534  2**2
                  CONTENTS, ALLOC, LOAD, READONLY, DATA
 17 .eh_frame     000001b0  00000000004015a0  00000000004015a0  000015a0  2**3
                  CONTENTS, ALLOC, LOAD, READONLY, DATA
 18 .init_array   00000008  0000000000601e08  0000000000601e08  00001e08  2**3
                  CONTENTS, ALLOC, LOAD, DATA
 19 .fini_array   00000008  0000000000601e10  0000000000601e10  00001e10  2**3
                  CONTENTS, ALLOC, LOAD, DATA
 20 .dynamic      000001d0  0000000000601e18  0000000000601e18  00001e18  2**3
                  CONTENTS, ALLOC, LOAD, DATA
 21 .got          00000018  0000000000601fe8  0000000000601fe8  00001fe8  2**3
                  CONTENTS, ALLOC, LOAD, DATA
 22 .got.plt      00000078  0000000000602000  0000000000602000  00002000  2**3
                  CONTENTS, ALLOC, LOAD, DATA
 23 .data         00000200  0000000000602080  0000000000602080  00002080  2**5
                  CONTENTS, ALLOC, LOAD, DATA
 24 .bss          0000bbc0  0000000000602280  0000000000602280  00002280  2**5
                  ALLOC
 25 .comment      00000029  0000000000000000  0000000000000000  00002280  2**0
                  CONTENTS, READONLY
SYMBOL TABLE:
0000000000400238 l    d  .interp0000000000000000              .interp
0000000000400254 l    d  .note.ABI-tag  0000000000000000              .note.ABI-tag
0000000000400274 l    d  .note.gnu.build-id       0000000000000000              .note.gnu.build-id
0000000000400298 l    d  .gnu.hash      0000000000000000              .gnu.hash
00000000004002c0 l    d  .dynsym        0000000000000000              .dynsym
0000000000400440 l    d  .dynstr        0000000000000000              .dynstr
00000000004004e2 l    d  .gnu.version   0000000000000000              .gnu.version
0000000000400508 l    d  .gnu.version_r0000000000000000              .gnu.version_r
0000000000400538 l    d  .rela.dyn      0000000000000000              .rela.dyn
0000000000400580 l    d  .rela.plt      0000000000000000              .rela.plt
00000000004006a0 l    d  .init  0000000000000000              .init
00000000004006c0 l    d  .plt   0000000000000000              .plt
0000000000400790 l    d  .plt.got       0000000000000000              .plt.got
00000000004007a0 l    d  .text  0000000000000000              .text
00000000004011d0 l    d  .fini  0000000000000000              .fini
00000000004011e0 l    d  .rodata        0000000000000000              .rodata
0000000000401534 l    d  .eh_frame_hdr          0000000000000000              .eh_frame_hdr
00000000004015a0 l    d  .eh_frame      0000000000000000              .eh_frame
0000000000601e08 l    d  .init_array    0000000000000000              .init_array
0000000000601e10 l    d  .fini_array    0000000000000000              .fini_array
0000000000601e18 l    d  .dynamic       0000000000000000              .dynamic
```

```
0000000000601fe8 l    d  .got    0000000000000000              .got
0000000000602000 l    d  .got.plt           0000000000000000              .got.plt
0000000000602080 l    d  .data  0000000000000000              .data
0000000000602280 l    d  .bss   0000000000000000              .bss
0000000000000000 l    d  .comment       0000000000000000              .comment
0000000000000000 l    df *ABS*0000000000000000              crtstuff.c
00000000004007e0 l     F .text  0000000000000000              deregister_tm_clones
0000000000400810 l     F .text  0000000000000000              register_tm_clones
0000000000400850 l     F .text  0000000000000000              __do_global_dtors_aux
0000000000602280 l     O .bss   0000000000000001              completed.7698
0000000000601e10 l     O .fini_array       0000000000000000
__do_global_dtors_aux_fini_array_entry
0000000000400880 l     F .text  0000000000000000              frame_dummy
0000000000601e08 l     O .init_array       0000000000000000              __frame_dummy_init_array_entry
0000000000000000 l    df *ABS*0000000000000000              module1.c
0000000000000000 l    df *ABS*0000000000000000              module2.c
0000000000000000 l    df *ABS*0000000000000000              module3.c
0000000000000000 l    df *ABS*0000000000000000              crtstuff.c
000000000040174c l     O .eh_frame       0000000000000000              __FRAME_END__
0000000000000000 l    df *ABS*0000000000000000
0000000000601e10 l       .init_array       0000000000000000              __init_array_end
0000000000601e18 l     O .dynamic       0000000000000000              _DYNAMIC
0000000000601e08 l       .init_array       0000000000000000              __init_array_start
0000000000401534 l       .eh_frame_hdr 0000000000000000              __GNU_EH_FRAME_HDR
0000000000602000 l     O .got.plt          0000000000000000              _GLOBAL_OFFSET_TABLE_
00000000004011b0 g     F .text  0000000000000002              __libc_csu_fini
00000000004010e7 g     F .text  0000000000000050              func3
0000000000000000       F *UND*            0000000000000000              free@@GLIBC_2.2.5
00000000006020a0 g     O .data0000000000000004              sizeX
0000000000400887 g     F .text  0000000000000050              func1
0000000000000000       F *UND*            0000000000000000              remove@@GLIBC_2.2.5
0000000000602080  w      .data 0000000000000000              data_start
0000000000000000       F *UND*            0000000000000000              puts@@GLIBC_2.2.5
0000000000602140 g     O .data0000000000000004              sizeX2
0000000000000000       F *UND*            0000000000000000              write@@GLIBC_2.2.5
0000000000602280 g       .data  0000000000000000              _edata
00000000006022a0 g     O .bss  0000000000000004              z
00000000006020c0 g     O .data0000000000000080              x
00000000004011d0 g     F .fini   0000000000000000              _fini
0000000000000000       F *UND*            0000000000000000              __stack_chk_fail@@GLIBC_2.4
0000000000000000       F *UND*            0000000000000000              mmap@@GLIBC_2.2.5
0000000000000000       F *UND*            0000000000000000              printf@@GLIBC_2.2.5
0000000000000000       F *UND*            0000000000000000              memset@@GLIBC_2.2.5
00000000004011c0  w    F .text 000000000000000f             .hidden fstat
0000000000609fc0 g     O .bss  0000000000003e80              y3
00000000004008d7 g     F .text  0000000000000099              rec_func
0000000000602160 g     O .data0000000000000080              x2
0000000000000000       F *UND*            0000000000000000              __libc_start_main@@GLIBC_2.2.5
```

```
0000000000602080 g      .data  0000000000000000             __data_start
0000000000000000       F *UND*          0000000000000000            getchar@@GLIBC_2.2.5
0000000000000000  w      *UND*          0000000000000000            __gmon_start__
0000000000602088 g     O .data0000000000000000             .hidden __dso_handle
00000000004011e0 g     O .rodata        0000000000000004            _IO_stdin_used
0000000000401097 g     F .text  0000000000000050            func2
0000000000401140 g     F .text  0000000000000065            __libc_csu_init
0000000000000000       F *UND*          0000000000000000            malloc@@GLIBC_2.2.5
0000000000000000       F *UND*          0000000000000000            __fxstat@@GLIBC_2.2.5
000000000060de40 g      .bss  0000000000000000             _end
00000000004007d0 g     F .text  0000000000000002            .hidden _dl_relocate_static_pie
00000000004007a0 g     F .text  000000000000002b            _start
00000000006021e0 g     O .data0000000000000004             sizeX3
00000000006022c0 g     O .bss  0000000000003e80             y
0000000000602280 g      .bss  0000000000000000             __bss_start
0000000000000000       F *UND*          0000000000000000            munmap@@GLIBC_2.2.5
0000000000400970 g     F .text  0000000000000727            main
0000000000000000       F *UND*          0000000000000000            open@@GLIBC_2.2.5
00000000004011c0 g     F .text  000000000000000f            .hidden __fstat
0000000000602200 g     O .data0000000000000080             x3
0000000000602280 g     O .data0000000000000000             .hidden __TMC_END__
00000000004006a0 g     F .init  0000000000000000            _init
0000000000606140 g     O .bss  0000000000003e80             y2



Disassembly of section .init:

00000000004006a0 <_init>:
  4006a0:          48 83 ec 08                  sub    $0x8,%rsp
  4006a4:          48 8b 05 4d 19 20 00         mov    0x20194d(%rip),%rax        # 601ff8 <__gmon_start__>
  4006ab:          48 85 c0                     test   %rax,%rax
  4006ae:          74 02                je     4006b2 <_init+0x12>
  4006b0:          ff d0                callq  *%rax
  4006b2:          48 83 c4 08                  add    $0x8,%rsp
  4006b6:          c3                   retq

Disassembly of section .plt:

00000000004006c0 <.plt>:
  4006c0:          ff 35 42 19 20 00            pushq  0x201942(%rip)        # 602008
<_GLOBAL_OFFSET_TABLE_+0x8>
  4006c6:          ff 25 44 19 20 00            jmpq   *0x201944(%rip)        # 602010
<_GLOBAL_OFFSET_TABLE_+0x10>
  4006cc:          0f 1f 40 00                  nopl   0x0(%rax)

00000000004006d0 <free@plt>:
  4006d0:          ff 25 42 19 20 00            jmpq   *0x201942(%rip)        # 602018 <free@GLIBC_2.2.5>
  4006d6:         68 00 00 00 00             pushq  $0x0
  4006db:         e9 e0 ff ff ff       jmpq   4006c0 <.plt>

00000000004006e0 <remove@plt>:
  4006e0:         ff 25 3a 19 20 00          jmpq   *0x20193a(%rip)        # 602020 <remove@GLIBC_2.2.5>
  4006e6:         68 01 00 00 00             pushq  $0x1
  4006eb:         e9 d0 ff ff ff       jmpq   4006c0 <.plt>

00000000004006f0 <puts@plt>:
  4006f0:         ff 25 32 19 20 00          jmpq   *0x201932(%rip)        # 602028 <puts@GLIBC_2.2.5>
  4006f6:         68 02 00 00 00             pushq  $0x2
  4006fb:         e9 c0 ff ff ff       jmpq   4006c0 <.plt>

0000000000400700 <write@plt>:
  400700:         ff 25 2a 19 20 00          jmpq   *0x20192a(%rip)        # 602030 <write@GLIBC_2.2.5>
  400706:         68 03 00 00 00             pushq  $0x3
  40070b:         e9 b0 ff ff ff       jmpq   4006c0 <.plt>

0000000000400710 <__stack_chk_fail@plt>:
  400710:         ff 25 22 19 20 00          jmpq   *0x201922(%rip)        # 602038
<__stack_chk_fail@GLIBC_2.4>
  400716:         68 04 00 00 00             pushq  $0x4
  40071b:         e9 a0 ff ff ff       jmpq   4006c0 <.plt>

0000000000400720 <mmap@plt>:
  400720:         ff 25 1a 19 20 00          jmpq   *0x20191a(%rip)        # 602040 <mmap@GLIBC_2.2.5>
  400726:         68 05 00 00 00             pushq  $0x5
  40072b:         e9 90 ff ff ff       jmpq   4006c0 <.plt>

0000000000400730 <memset@plt>:
  400730:         ff 25 12 19 20 00          jmpq   *0x201912(%rip)        # 602048 <memset@GLIBC_2.2.5>
  400736:         68 06 00 00 00             pushq  $0x6
  40073b:         e9 80 ff ff ff       jmpq   4006c0 <.plt>

0000000000400740 <getchar@plt>:
  400740:         ff 25 0a 19 20 00          jmpq   *0x20190a(%rip)        # 602050 <getchar@GLIBC_2.2.5>
  400746:         68 07 00 00 00             pushq  $0x7
  40074b:         e9 70 ff ff ff       jmpq   4006c0 <.plt>

0000000000400750 <malloc@plt>:
  400750:         ff 25 02 19 20 00          jmpq   *0x201902(%rip)        # 602058 <malloc@GLIBC_2.2.5>
  400756:         68 08 00 00 00             pushq  $0x8
  40075b:         e9 60 ff ff ff       jmpq   4006c0 <.plt>

0000000000400760 <__fxstat@plt>:
  400760:         ff 25 fa 18 20 00          jmpq   *0x2018fa(%rip)       # 602060 <__fxstat@GLIBC_2.2.5>
  400766:         68 09 00 00 00             pushq  $0x9
  40076b:         e9 50 ff ff ff       jmpq   4006c0 <.plt>
```

```
0000000000400770 <munmap@plt>:
 400770:        ff 25 f2 18 20 00           jmpq   *0x2018f2(%rip)        # 602068 <munmap@GLIBC_2.2.5>
 400776:        68 0a 00 00 00              pushq  $0xa
 40077b:        e9 40 ff ff ff       jmpq   4006c0 <.plt>

0000000000400780 <open@plt>:
 400780:        ff 25 ea 18 20 00           jmpq   *0x2018ea(%rip)        # 602070 <open@GLIBC_2.2.5>
 400786:        68 0b 00 00 00              pushq  $0xb
 40078b:        e9 30 ff ff ff       jmpq   4006c0 <.plt>

Disassembly of section .plt.got:

0000000000400790 <printf@plt>:
 400790:        ff 25 52 18 20 00           jmpq   *0x201852(%rip)        # 601fe8 <printf@GLIBC_2.2.5>
 400796:        66 90                xchg   %ax,%ax

Disassembly of section .text:

00000000004007a0 <_start>:
 4007a0:        31 ed                xor    %ebp,%ebp
 4007a2:        49 89 d1                    mov    %rdx,%r9
 4007a5:        5e                   pop    %rsi
 4007a6:        48 89 e2                    mov    %rsp,%rdx
 4007a9:        48 83 e4 f0                 and    $0xfffffffffffffff0,%rsp
 4007ad:        50                   push   %rax
 4007ae:        54                   push   %rsp
 4007af:        49 c7 c0 b0 11 40 00        mov    $0x4011b0,%r8
 4007b6:        48 c7 c1 40 11 40 00        mov    $0x401140,%rcx
 4007bd:        48 c7 c7 70 09 40 00        mov    $0x400970,%rdi
 4007c4:        ff 15 26 18 20 00           callq  *0x201826(%rip)        # 601ff0
<__libc_start_main@GLIBC_2.2.5>
 4007ca:        f4                   hlt
 4007cb:        0f 1f 44 00 00              nopl   0x0(%rax,%rax,1)

00000000004007d0 <_dl_relocate_static_pie>:
 4007d0:        f3 c3                repz retq
 4007d2:        66 2e 0f 1f 84 00 00        nopw   %cs:0x0(%rax,%rax,1)
 4007d9:        00 00 00
 4007dc:        0f 1f 40 00                 nopl   0x0(%rax)

00000000004007e0 <deregister_tm_clones>:
 4007e0:        55                   push   %rbp
 4007e1:        b8 80 22 60 00              mov    $0x602280,%eax
 4007e6:        48 3d 80 22 60 00           cmp    $0x602280,%rax
 4007ec:        48 89 e5                    mov    %rsp,%rbp
 4007ef:        74 17                je     400808 <deregister_tm_clones+0x28>
 4007f1:        b8 00 00 00 00              mov    $0x0,%eax
```

```
  4007f6:        48 85 c0                 test   %rax,%rax
  4007f9:        74 0d              je     400808 <deregister_tm_clones+0x28>
  4007fb:        5d                 pop    %rbp
  4007fc:        bf 80 22 60 00           mov    $0x602280,%edi
  400801:        ff e0              jmpq   *%rax
  400803:        0f 1f 44 00 00           nopl   0x0(%rax,%rax,1)
  400808:        5d                 pop    %rbp
  400809:        c3                 retq
  40080a:        66 0f 1f 44 00 00        nopw   0x0(%rax,%rax,1)

0000000000400810 <register_tm_clones>:
  400810:        be 80 22 60 00           mov    $0x602280,%esi
  400815:        55                 push   %rbp
  400816:        48 81 ee 80 22 60 00     sub    $0x602280,%rsi
  40081d:        48 89 e5                 mov    %rsp,%rbp
  400820:        48 c1 fe 03              sar    $0x3,%rsi
  400824:        48 89 f0                 mov    %rsi,%rax
  400827:        48 c1 e8 3f              shr    $0x3f,%rax
  40082b:        48 01 c6                 add    %rax,%rsi
  40082e:        48 d1 fe                 sar    %rsi
  400831:        74 15              je     400848 <register_tm_clones+0x38>
  400833:        b8 00 00 00 00           mov    $0x0,%eax
  400838:        48 85 c0                 test   %rax,%rax
  40083b:        74 0b              je     400848 <register_tm_clones+0x38>
  40083d:        5d                 pop    %rbp
  40083e:        bf 80 22 60 00           mov    $0x602280,%edi
  400843:        ff e0              jmpq   *%rax
  400845:        0f 1f 00           nopl   (%rax)
  400848:        5d                 pop    %rbp
  400849:        c3                 retq
  40084a:        66 0f 1f 44 00 00        nopw   0x0(%rax,%rax,1)

0000000000400850 <__do_global_dtors_aux>:
  400850:        80 3d 29 1a 20 00 00     cmpb   $0x0,0x201a29(%rip)        # 602280 <__TMC_END__>
  400857:        75 17              jne    400870 <__do_global_dtors_aux+0x20>
  400859:        55                 push   %rbp
  40085a:        48 89 e5                 mov    %rsp,%rbp
  40085d:        e8 7e ff ff ff     callq  4007e0 <deregister_tm_clones>
  400862:        c6 05 17 1a 20 00 01     movb   $0x1,0x201a17(%rip)        # 602280 <__TMC_END__>
  400869:        5d                 pop    %rbp
  40086a:        c3                 retq
  40086b:        0f 1f 44 00 00           nopl   0x0(%rax,%rax,1)
  400870:        f3 c3              repz retq
  400872:        0f 1f 40 00              nopl   0x0(%rax)
  400876:        66 2e 0f 1f 84 00 00     nopw   %cs:0x0(%rax,%rax,1)
  40087d:        00 00 00

0000000000400880 <frame_dummy>:
  400880:      55                push   %rbp
  400881:      48 89 e5                 mov    %rsp,%rbp
  400884:      5d                pop    %rbp
  400885:      eb 89             jmp    400810 <register_tm_clones>

0000000000400887 <func1>:
  400887:      55                push   %rbp
  400888:      48 89 e5                 mov    %rsp,%rbp
  40088b:      c7 45 fc 00 00 00 00     movl   $0x0,-0x4(%rbp)
  400892:      eb 35             jmp    4008c9 <func1+0x42>
  400894:      8b 45 fc          mov    -0x4(%rbp),%eax
  400897:      48 98             cltq
  400899:      48 8d 14 85 00 00 00     lea    0x0(,%rax,4),%rdx
  4008a0:      00
  4008a1:      48 8d 05 18 18 20 00     lea    0x201818(%rip),%rax        # 6020c0 <x>
  4008a8:      8b 04 02                 mov    (%rdx,%rax,1),%eax
  4008ab:      8d 0c 00                 lea    (%rax,%rax,1),%ecx
  4008ae:      8b 45 fc          mov    -0x4(%rbp),%eax
  4008b1:      48 98             cltq
  4008b3:      48 8d 14 85 00 00 00     lea    0x0(,%rax,4),%rdx
  4008ba:      00
  4008bb:      48 8d 05 fe 17 20 00     lea    0x2017fe(%rip),%rax        # 6020c0 <x>
  4008c2:      89 0c 02                 mov    %ecx,(%rdx,%rax,1)
  4008c5:      83 45 fc 01              addl   $0x1,-0x4(%rbp)
  4008c9:      8b 05 d1 17 20 00        mov    0x2017d1(%rip),%eax        # 6020a0 <sizeX>
  4008cf:      39 45 fc          cmp    %eax,-0x4(%rbp)
  4008d2:      7c c0             jl     400894 <func1+0xd>
  4008d4:      90                nop
  4008d5:      5d                pop    %rbp
  4008d6:      c3                retq

00000000004008d7 <rec_func>:
  4008d7:      55                push   %rbp
  4008d8:      48 89 e5                 mov    %rsp,%rbp
  4008db:      48 81 ec 70 c3 00 00     sub    $0xc370,%rsp
  4008e2:      89 bd 9c 3c ff ff        mov    %edi,-0xc364(%rbp)
  4008e8:      64 48 8b 04 25 28 00     mov    %fs:0x28,%rax
  4008ef:      00 00
  4008f1:      48 89 45 f8              mov    %rax,-0x8(%rbp)
  4008f5:      31 c0             xor    %eax,%eax
  4008f7:      48 8d 85 9c 3c ff ff     lea    -0xc364(%rbp),%rax
  4008fe:      48 89 c6                 mov    %rax,%rsi
  400901:      48 8d 3d e0 08 00 00     lea    0x8e0(%rip),%rdi        # 4011e8 <_IO_stdin_used+0x8>
  400908:      b8 00 00 00 00           mov    $0x0,%eax
  40090d:      e8 7e fe ff ff           callq  400790 <printf@plt>
  400912:      48 8d 85 a0 3c ff ff     lea    -0xc360(%rbp),%rax
  400919:      ba 50 c3 00 00           mov    $0xc350,%edx
  40091e:      be 00 00 00 00           mov    $0x0,%esi
```

```
  400923:       48 89 c7                mov    %rax,%rdi
  400926:       e8 05 fe ff ff          callq  400730 <memset@plt>
  40092b:       8b 85 9c 3c ff ff       mov    -0xc364(%rbp),%eax
  400931:       83 f8 04                cmp    $0x4,%eax
  400934:       7e 08           jle    40093e <rec_func+0x67>
  400936:       8b 85 9c 3c ff ff       mov    -0xc364(%rbp),%eax
  40093c:       eb 1c           jmp    40095a <rec_func+0x83>
  40093e:       8b 85 9c 3c ff ff       mov    -0xc364(%rbp),%eax
  400944:       83 c0 01                add    $0x1,%eax
  400947:       89 85 9c 3c ff ff       mov    %eax,-0xc364(%rbp)
  40094d:       8b 85 9c 3c ff ff       mov    -0xc364(%rbp),%eax
  400953:       89 c7           mov    %eax,%edi
  400955:       e8 7d ff ff ff  callq  4008d7 <rec_func>
  40095a:       48 8b 4d f8             mov    -0x8(%rbp),%rcx
  40095e:       64 48 33 0c 25 28 00    xor    %fs:0x28,%rcx
  400965:       00 00
  400967:       74 05           je     40096e <rec_func+0x97>
  400969:       e8 a2 fd ff ff          callq  400710 <__stack_chk_fail@plt>
  40096e:       c9              leaveq
  40096f:       c3              retq

0000000000400970 <main>:
  400970:       55              push   %rbp
  400971:       48 89 e5                mov    %rsp,%rbp
  400974:       48 81 ec 20 01 00 00    sub    $0x120,%rsp
  40097b:       89 bd ec fe ff ff       mov    %edi,-0x114(%rbp)
  400981:       48 89 b5 e0 fe ff ff    mov    %rsi,-0x120(%rbp)
  400988:       64 48 8b 04 25 28 00    mov    %fs:0x28,%rax
  40098f:       00 00
  400991:       48 89 45 f8             mov    %rax,-0x8(%rbp)
  400995:       31 c0           xor    %eax,%eax
  400997:       c7 85 f4 fe ff ff 00    movl   $0x0,-0x10c(%rbp)
  40099e:       00 00 00
  4009a1:       c6 85 f2 fe ff ff 6e    movb   $0x6e,-0x10e(%rbp)
  4009a8:       80 bd f2 fe ff ff 6e    cmpb   $0x6e,-0x10e(%rbp)
  4009af:       0f 85 12 06 00 00       jne    400fc7 <main+0x657>
  4009b5:       83 85 f4 fe ff ff 01    addl   $0x1,-0x10c(%rbp)
  4009bc:       83 bd f4 fe ff ff 01    cmpl   $0x1,-0x10c(%rbp)
  4009c3:       0f 85 eb 01 00 00       jne    400bb4 <main+0x244>
  4009c9:       48 8d 35 31 08 00 00    lea    0x831(%rip),%rsi        # 401201 <_IO_stdin_used+0x21>
  4009d0:       48 8d 3d 31 08 00 00    lea    0x831(%rip),%rdi        # 401208 <_IO_stdin_used+0x28>
  4009d7:       b8 00 00 00 00          mov    $0x0,%eax
  4009dc:       e8 af fd ff ff  callq  400790 <printf@plt>
  4009e1:       48 8d 05 b8 16 20 00    lea    0x2016b8(%rip),%rax        # 6020a0 <sizeX>
  4009e8:       48 89 c6                mov    %rax,%rsi
  4009eb:       48 8d 3d 22 08 00 00    lea    0x822(%rip),%rdi        # 401214 <_IO_stdin_used+0x34>
  4009f2:       b8 00 00 00 00          mov    $0x0,%eax
  4009f7:       e8 94 fd ff ff          callq  400790 <printf@plt>
```

```
4009fc:     48 8d 05 bd 16 20 00    lea    0x2016bd(%rip),%rax       # 6020c0 <x>
400a03:     48 89 c6                mov    %rax,%rsi
400a06:     48 8d 3d 24 08 00 00    lea    0x824(%rip),%rdi       # 401231 <_IO_stdin_used+0x51>
400a0d:     b8 00 00 00 00          mov    $0x0,%eax
400a12:     e8 79 fd ff ff          callq  400790 <printf@plt>
400a17:     48 8d 05 a2 18 20 00    lea    0x2018a2(%rip),%rax       # 6022c0 <y>
400a1e:     48 89 c6                mov    %rax,%rsi
400a21:     48 8d 3d 23 08 00 00    lea    0x823(%rip),%rdi       # 40124b <_IO_stdin_used+0x6b>
400a28:     b8 00 00 00 00          mov    $0x0,%eax
400a2d:     e8 5e fd ff ff          callq  400790 <printf@plt>
400a32:     48 8d 05 67 18 20 00    lea    0x201867(%rip),%rax       # 6022a0 <z>
400a39:     48 89 c6                mov    %rax,%rsi
400a3c:     48 8d 3d 22 08 00 00    lea    0x822(%rip),%rdi       # 401265 <_IO_stdin_used+0x85>
400a43:     b8 00 00 00 00          mov    $0x0,%eax
400a48:     e8 43 fd ff ff          callq  400790 <printf@plt>
400a4d:     48 8d 05 ec 16 20 00    lea    0x2016ec(%rip),%rax       # 602140 <sizeX2>
400a54:     48 89 c6                mov    %rax,%rsi
400a57:     48 8d 3d 21 08 00 00    lea    0x821(%rip),%rdi       # 40127f <_IO_stdin_used+0x9f>
400a5e:     b8 00 00 00 00          mov    $0x0,%eax
400a63:     e8 28 fd ff ff          callq  400790 <printf@plt>
400a68:     48 8d 05 f1 16 20 00    lea    0x2016f1(%rip),%rax       # 602160 <x2>
400a6f:     48 89 c6                mov    %rax,%rsi
400a72:     48 8d 3d 24 08 00 00    lea    0x824(%rip),%rdi       # 40129d <_IO_stdin_used+0xbd>
400a79:     b8 00 00 00 00          mov    $0x0,%eax
400a7e:     e8 0d fd ff ff          callq  400790 <printf@plt>
400a83:     48 8d 05 b6 56 20 00    lea    0x2056b6(%rip),%rax       # 606140 <y2>
400a8a:     48 89 c6                mov    %rax,%rsi
400a8d:     48 8d 3d 24 08 00 00    lea    0x824(%rip),%rdi       # 4012b8 <_IO_stdin_used+0xd8>
400a94:     b8 00 00 00 00          mov    $0x0,%eax
400a99:     e8 f2 fc ff ff   callq  400790 <printf@plt>
400a9e:     48 8d 05 3b 17 20 00    lea    0x20173b(%rip),%rax       # 6021e0 <sizeX3>
400aa5:     48 89 c6                mov    %rax,%rsi
400aa8:     48 8d 3d 24 08 00 00    lea    0x824(%rip),%rdi       # 4012d3 <_IO_stdin_used+0xf3>
400aaf:     b8 00 00 00 00          mov    $0x0,%eax
400ab4:     e8 d7 fc ff ff   callq  400790 <printf@plt>
400ab9:     48 8d 05 40 17 20 00    lea    0x201740(%rip),%rax       # 602200 <x3>
400ac0:     48 89 c6                mov    %rax,%rsi
400ac3:     48 8d 3d 27 08 00 00    lea    0x827(%rip),%rdi       # 4012f1 <_IO_stdin_used+0x111>
400aca:     b8 00 00 00 00          mov    $0x0,%eax
400acf:     e8 bc fc ff ff   callq  400790 <printf@plt>
400ad4:     48 8d 05 e5 94 20 00    lea    0x2094e5(%rip),%rax       # 609fc0 <y3>
400adb:     48 89 c6                mov    %rax,%rsi
400ade:     48 8d 3d 27 08 00 00    lea    0x827(%rip),%rdi       # 40130c <_IO_stdin_used+0x12c>
400ae5:     b8 00 00 00 00          mov    $0x0,%eax
400aea:     e8 a1 fc ff ff   callq  400790 <printf@plt>
400aef:     48 8d 05 7a fe ff ff    lea    -0x186(%rip),%rax      # 400970 <main>
400af6:     48 89 c6                mov    %rax,%rsi
400af9:     48 8d 3d 27 08 00 00    lea    0x827(%rip),%rdi       # 401327 <_IO_stdin_used+0x147>
```

```
  400b00:        b8 00 00 00 00            mov    $0x0,%eax
  400b05:        e8 86 fc ff ff       callq  400790 <printf@plt>
  400b0a:        48 8d 05 c6 fd ff ff          lea    -0x23a(%rip),%rax        # 4008d7 <rec_func>
  400b11:        48 89 c6                  mov    %rax,%rsi
  400b14:        48 8d 3d 2d 08 00 00      lea    0x82d(%rip),%rdi        # 401348 <_IO_stdin_used+0x168>
  400b1b:        b8 00 00 00 00            mov    $0x0,%eax
  400b20:        e8 6b fc ff ff       callq  400790 <printf@plt>
  400b25:        48 8d 05 5b fd ff ff          lea    -0x2a5(%rip),%rax        # 400887 <func1>
  400b2c:        48 89 c6                  mov    %rax,%rsi
  400b2f:        48 8d 3d 32 08 00 00      lea    0x832(%rip),%rdi        # 401368 <_IO_stdin_used+0x188>
  400b36:        b8 00 00 00 00            mov    $0x0,%eax
  400b3b:        e8 50 fc ff ff       callq  400790 <printf@plt>
  400b40:        48 c7 c0 97 10 40 00      mov    $0x401097,%rax
  400b47:        48 89 c6                  mov    %rax,%rsi
  400b4a:        48 8d 3d 34 08 00 00      lea    0x834(%rip),%rdi        # 401385 <_IO_stdin_used+0x1a5>
  400b51:        b8 00 00 00 00            mov    $0x0,%eax
  400b56:        e8 35 fc ff ff       callq  400790 <printf@plt>
  400b5b:        48 c7 c0 e7 10 40 00      mov    $0x4010e7,%rax
  400b62:        48 89 c6                  mov    %rax,%rsi
  400b65:        48 8d 3d 36 08 00 00      lea    0x836(%rip),%rdi        # 4013a2 <_IO_stdin_used+0x1c2>
  400b6c:        b8 00 00 00 00            mov    $0x0,%eax
  400b71:        e8 1a fc ff ff       callq  400790 <printf@plt>
  400b76:        48 8b 05 6b 14 20 00      mov    0x20146b(%rip),%rax        # 601fe8
<printf@GLIBC_2.2.5>
  400b7d:        48 89 c6                  mov    %rax,%rsi
  400b80:        48 8d 3d 38 08 00 00      lea    0x838(%rip),%rdi        # 4013bf <_IO_stdin_used+0x1df>
  400b87:        b8 00 00 00 00            mov    $0x0,%eax
  400b8c:        e8 ff fb ff ff       callq  400790 <printf@plt>
  400b91:        b8 00 00 00 00            mov    $0x0,%eax
  400b96:        e8 ec fc ff ff       callq  400887 <func1>
  400b9b:        b8 00 00 00 00            mov    $0x0,%eax
  400ba0:        e8 f2 04 00 00            callq  401097 <func2>
  400ba5:        b8 00 00 00 00            mov    $0x0,%eax
  400baa:        e8 38 05 00 00            callq  4010e7 <func3>
  400baf:        e9 13 04 00 00            jmpq   400fc7 <main+0x657>
  400bb4:        83 bd f4 fe ff ff 02      cmpl   $0x2,-0x10c(%rbp)
  400bbb:        0f 85 cd 00 00 00         jne    400c8e <main+0x31e>
  400bc1:        48 8d 35 15 08 00 00      lea    0x815(%rip),%rsi        # 4013dd <_IO_stdin_used+0x1fd>
  400bc8:        48 8d 3d 39 06 00 00      lea    0x639(%rip),%rdi        # 401208 <_IO_stdin_used+0x28>
  400bcf:        b8 00 00 00 00            mov    $0x0,%eax
  400bd4:        e8 b7 fb ff ff            callq  400790 <printf@plt>
  400bd9:        bf 20 a1 07 00            mov    $0x7a120,%edi
  400bde:        e8 6d fb ff ff            callq  400750 <malloc@plt>
  400be3:        48 89 85 08 ff ff ff      mov    %rax,-0xf8(%rbp)
  400bea:        bf 20 a1 07 00            mov    $0x7a120,%edi
  400bef:        e8 5c fb ff ff       callq  400750 <malloc@plt>
  400bf4:        48 89 85 10 ff ff ff      mov    %rax,-0xf0(%rbp)
  400bfb:        bf 20 a1 07 00            mov    $0x7a120,%edi
```

```
400c00:     e8 4b fb ff ff              callq  400750 <malloc@plt>
400c05:     48 89 85 18 ff ff ff        mov    %rax,-0xe8(%rbp)
400c0c:     bf 20 a1 07 00              mov    $0x7a120,%edi
400c11:     e8 3a fb ff ff              callq  400750 <malloc@plt>
400c16:     48 89 85 20 ff ff ff        mov    %rax,-0xe0(%rbp)
400c1d:     48 8b 85 08 ff ff ff        mov    -0xf8(%rbp),%rax
400c24:     48 89 c6                    mov    %rax,%rsi
400c27:     48 8d 3d b6 07 00 00        lea    0x7b6(%rip),%rdi        # 4013e4 <_IO_stdin_used+0x204>
400c2e:     b8 00 00 00 00              mov    $0x0,%eax
400c33:     e8 58 fb ff ff              callq  400790 <printf@plt>
400c38:     48 8b 85 10 ff ff ff        mov    -0xf0(%rbp),%rax
400c3f:     48 89 c6                    mov    %rax,%rsi
400c42:     48 8d 3d b4 07 00 00        lea    0x7b4(%rip),%rdi        # 4013fd <_IO_stdin_used+0x21d>
400c49:     b8 00 00 00 00              mov    $0x0,%eax
400c4e:     e8 3d fb ff ff              callq  400790 <printf@plt>
400c53:     48 8b 85 18 ff ff ff        mov    -0xe8(%rbp),%rax
400c5a:     48 89 c6                    mov    %rax,%rsi
400c5d:     48 8d 3d b2 07 00 00        lea    0x7b2(%rip),%rdi        # 401416 <_IO_stdin_used+0x236>
400c64:     b8 00 00 00 00              mov    $0x0,%eax
400c69:     e8 22 fb ff ff              callq  400790 <printf@plt>
400c6e:     48 8b 85 20 ff ff ff        mov    -0xe0(%rbp),%rax
400c75:     48 89 c6                    mov    %rax,%rsi
400c78:     48 8d 3d b0 07 00 00        lea    0x7b0(%rip),%rdi        # 40142f <_IO_stdin_used+0x24f>
400c7f:     b8 00 00 00 00              mov    $0x0,%eax
400c84:     e8 07 fb ff ff              callq  400790 <printf@plt>
400c89:     e9 39 03 00 00              jmpq   400fc7 <main+0x657>
400c8e:     83 bd f4 fe ff ff 03        cmpl   $0x3,-0x10c(%rbp)
400c95:     75 27           jne    400cbe <main+0x34e>
400c97:     48 8d 35 aa 07 00 00        lea    0x7aa(%rip),%rsi        # 401448 <_IO_stdin_used+0x268>
400c9e:     48 8d 3d 63 05 00 00        lea    0x563(%rip),%rdi        # 401208 <_IO_stdin_used+0x28>
400ca5:     b8 00 00 00 00              mov    $0x0,%eax
400caa:     e8 e1 fa ff ff              callq  400790 <printf@plt>
400caf:     bf 01 00 00 00              mov    $0x1,%edi
400cb4:     e8 1e fc ff ff      callq  4008d7 <rec_func>
400cb9:     e9 09 03 00 00              jmpq   400fc7 <main+0x657>
400cbe:     83 bd f4 fe ff ff 04        cmpl   $0x4,-0x10c(%rbp)
400cc5:     0f 85 f1 00 00 00           jne    400dbc <main+0x44c>
400ccb:     48 8d 35 7d 07 00 00        lea    0x77d(%rip),%rsi        # 40144f <_IO_stdin_used+0x26f>
400cd2:     48 8d 3d 2f 05 00 00        lea    0x52f(%rip),%rdi        # 401208 <_IO_stdin_used+0x28>
400cd9:     b8 00 00 00 00              mov    $0x0,%eax
400cde:     e8 ad fa ff ff              callq  400790 <printf@plt>
400ce3:     ba ff 01 00 00              mov    $0x1ff,%edx
400ce8:     be 42 00 00 00              mov    $0x42,%esi
400ced:     48 8d 3d 62 07 00 00        lea    0x762(%rip),%rdi        # 401456 <_IO_stdin_used+0x276>
400cf4:     b8 00 00 00 00              mov    $0x0,%eax
400cf9:     e8 82 fa ff ff              callq  400780 <open@plt>
400cfe:     89 85 04 ff ff ff           mov    %eax,-0xfc(%rbp)
400d04:     48 b8 6d 75 6e 69 62        movabs $0x726d6562696e756d,%rax
```

```
400d0b:     65 6d 72
400d0e:     48 89 45 ed                 mov    %rax,-0x13(%rbp)
400d12:     66 c7 45 f5 65 0a           movw   $0xa65,-0xb(%rbp)
400d18:     c6 45 f7 00                 movb   $0x0,-0x9(%rbp)
400d1c:     c7 85 f8 fe ff ff 00        movl   $0x0,-0x108(%rbp)
400d23:     00 00 00
400d26:     eb 20           jmp    400d48 <main+0x3d8>
400d28:     48 8d 4d ed                 lea    -0x13(%rbp),%rcx
400d2c:     8b 85 04 ff ff ff           mov    -0xfc(%rbp),%eax
400d32:     ba 0a 00 00 00              mov    $0xa,%edx
400d37:     48 89 ce                    mov    %rcx,%rsi
400d3a:     89 c7           mov    %eax,%edi
400d3c:     e8 bf f9 ff ff  callq  400700 <write@plt>
400d41:     83 85 f8 fe ff ff 01        addl   $0x1,-0x108(%rbp)
400d48:     81 bd f8 fe ff ff af        cmpl   $0x1adaf,-0x108(%rbp)
400d4f:     ad 01 00
400d52:     7e d4           jle    400d28 <main+0x3b8>
400d54:     48 8d 95 50 ff ff ff        lea    -0xb0(%rbp),%rdx
400d5b:     8b 85 04 ff ff ff           mov    -0xfc(%rbp),%eax
400d61:     48 89 d6                    mov    %rdx,%rsi
400d64:     89 c7           mov    %eax,%edi
400d66:     e8 55 04 00 00              callq  4011c0 <__fstat>
400d6b:     48 8b 45 80                 mov    -0x80(%rbp),%rax
400d6f:     48 89 c6                    mov    %rax,%rsi
400d72:     8b 85 04 ff ff ff           mov    -0xfc(%rbp),%eax
400d78:     41 b9 00 00 00 00           mov    $0x0,%r9d
400d7e:     41 89 c0                    mov    %eax,%r8d
400d81:     b9 01 00 00 00              mov    $0x1,%ecx
400d86:     ba 03 00 00 00              mov    $0x3,%edx
400d8b:     bf 00 00 00 00              mov    $0x0,%edi
400d90:     e8 8b f9 ff ff              callq  400720 <mmap@plt>
400d95:     48 89 85 28 ff ff ff        mov    %rax,-0xd8(%rbp)
400d9c:     48 8b 85 28 ff ff ff        mov    -0xd8(%rbp),%rax
400da3:     48 89 c6                    mov    %rax,%rsi
400da6:     48 8d 3d b3 06 00 00        lea    0x6b3(%rip),%rdi        # 401460 <_IO_stdin_used+0x280>
400dad:     b8 00 00 00 00              mov    $0x0,%eax
400db2:     e8 d9 f9 ff ff              callq  400790 <printf@plt>
400db7:     e9 0b 02 00 00              jmpq   400fc7 <main+0x657>
400dbc:     83 bd f4 fe ff ff 05        cmpl   $0x5,-0x10c(%rbp)
400dc3:     0f 85 cf 00 00 00           jne    400e98 <main+0x528>
400dc9:     48 8d 35 b2 06 00 00        lea    0x6b2(%rip),%rsi        # 401482 <_IO_stdin_used+0x2a2>
400dd0:     48 8d 3d 31 04 00 00        lea    0x431(%rip),%rdi        # 401208 <_IO_stdin_used+0x28>
400dd7:     b8 00 00 00 00              mov    $0x0,%eax
400ddc:     e8 af f9 ff ff  callq  400790 <printf@plt>
400de1:     48 b8 0a 73 65 76 69        movabs $0x65676c697665730a,%rax
400de8:     6c 67 65
400deb:     48 89 45 ed                 mov    %rax,-0x13(%rbp)
400def:     66 c7 45 f5 6e 0a           movw   $0xa6e,-0xb(%rbp)
```

```
400df5:       c6 45 f7 00              movb   $0x0,-0x9(%rbp)
400df9:       c7 85 fc fe ff ff 00     movl   $0x0,-0x104(%rbp)
400e00:       00 00 00
400e03:       eb 4a          jmp    400e4f <main+0x4df>
400e05:       8b 8d fc fe ff ff        mov    -0x104(%rbp),%ecx
400e0b:       ba 67 66 66 66           mov    $0x66666667,%edx
400e10:       89 c8          mov    %ecx,%eax
400e12:       f7 ea          imul   %edx
400e14:       c1 fa 02       sar    $0x2,%edx
400e17:       89 c8          mov    %ecx,%eax
400e19:       c1 f8 1f       sar    $0x1f,%eax
400e1c:       29 c2          sub    %eax,%edx
400e1e:       89 d0          mov    %edx,%eax
400e20:       c1 e0 02                 shl    $0x2,%eax
400e23:       01 d0          add    %edx,%eax
400e25:       01 c0          add    %eax,%eax
400e27:       29 c1          sub    %eax,%ecx
400e29:       89 ca          mov    %ecx,%edx
400e2b:       8b 85 fc fe ff ff        mov    -0x104(%rbp),%eax
400e31:       48 63 c8                 movslq %eax,%rcx
400e34:       48 8b 85 28 ff ff ff     mov    -0xd8(%rbp),%rax
400e3b:       48 01 c1                 add    %rax,%rcx
400e3e:       48 63 c2                 movslq %edx,%rax
400e41:       0f b6 44 05 ed           movzbl -0x13(%rbp,%rax,1),%eax
400e46:       88 01          mov    %al,(%rcx)
400e48:       83 85 fc fe ff ff 01     addl   $0x1,-0x104(%rbp)
400e4f:       83 bd fc fe ff ff 63     cmpl   $0x63,-0x104(%rbp)
400e56:       7e ad          jle    400e05 <main+0x495>
400e58:       c7 85 00 ff ff ff 00     movl   $0x0,-0x100(%rbp)
400e5f:       00 00 00
400e62:       eb 23          jmp    400e87 <main+0x517>
400e64:       8b 85 00 ff ff ff        mov    -0x100(%rbp),%eax
400e6a:       48 63 d0                 movslq %eax,%rdx
400e6d:       48 8b 85 28 ff ff ff     mov    -0xd8(%rbp),%rax
400e74:       48 01 d0                 add    %rdx,%rax
400e77:       0f b6 00                 movzbl (%rax),%eax
400e7a:       88 85 f3 fe ff ff        mov    %al,-0x10d(%rbp)
400e80:       83 85 00 ff ff ff 01     addl   $0x1,-0x100(%rbp)
400e87:       81 bd 00 ff ff ff e7     cmpl   $0x3e7,-0x100(%rbp)
400e8e:       03 00 00
400e91:       7e d1          jle    400e64 <main+0x4f4>
400e93:       e9 2f 01 00 00           jmpq   400fc7 <main+0x657>
400e98:       83 bd f4 fe ff ff 06     cmpl   $0x6,-0x10c(%rbp)
400e9f:       0f 85 75 01 00 00        jne    40101a <main+0x6aa>
400ea5:       48 8d 35 dd 05 00 00     lea    0x5dd(%rip),%rsi        # 401489 <_IO_stdin_used+0x2a9>
400eac:       48 8d 3d 55 03 00 00     lea    0x355(%rip),%rdi        # 401208 <_IO_stdin_used+0x28>
400eb3:       b8 00 00 00 00           mov    $0x0,%eax
400eb8:       e8 d3 f8 ff ff           callq  400790 <printf@plt>
```

```
400ebd:    48 8d 05 ac fa ff ff     lea    -0x554(%rip),%rax        # 400970 <main>
400ec4:    48 89 85 38 ff ff ff     mov    %rax,-0xc8(%rbp)
400ecb:    48 8b 85 38 ff ff ff     mov    -0xc8(%rbp),%rax
400ed2:    48 89 c6                 mov    %rax,%rsi
400ed5:    48 8d 3d b4 05 00 00     lea    0x5b4(%rip),%rdi        # 401490 <_IO_stdin_used+0x2b0>
400edc:    b8 00 00 00 00           mov    $0x0,%eax
400ee1:    e8 aa f8 ff ff           callq  400790 <printf@plt>
400ee6:    48 8b 8d 38 ff ff ff     mov    -0xc8(%rbp),%rcx
400eed:    48 89 c8                 mov    %rcx,%rax
400ef0:    48 c1 e8 05              shr    $0x5,%rax
400ef4:    48 ba 7d 3f 35 5e ba     movabs $0x20c49ba5e353f7d,%rdx
400efb:    49 0c 02
400efe:    48 f7 e2                 mul    %rdx
400f01:    48 69 c2 a0 0f 00 00     imul   $0xfa0,%rdx,%rax
400f08:    48 29 c1                 sub    %rax,%rcx
400f0b:    48 89 c8                 mov    %rcx,%rax
400f0e:    48 89 85 40 ff ff ff     mov    %rax,-0xc0(%rbp)
400f15:    48 8b 85 40 ff ff ff     mov    -0xc0(%rbp),%rax
400f1c:    48 89 c6                 mov    %rax,%rsi
400f1f:    48 8d 3d 86 05 00 00     lea    0x586(%rip),%rdi        # 4014ac <_IO_stdin_used+0x2cc>
400f26:    b8 00 00 00 00           mov    $0x0,%eax
400f2b:    e8 60 f8 ff ff           callq  400790 <printf@plt>
400f30:    48 8b 85 40 ff ff ff     mov    -0xc0(%rbp),%rax
400f37:    48 29 85 38 ff ff ff     sub    %rax,-0xc8(%rbp)
400f3e:    48 8b 85 38 ff ff ff     mov    -0xc8(%rbp),%rax
400f45:    48 89 c6                 mov    %rax,%rsi
400f48:    48 8d 3d 71 05 00 00     lea    0x571(%rip),%rdi        # 4014c0 <_IO_stdin_used+0x2e0>
400f4f:    b8 00 00 00 00           mov    $0x0,%eax
400f54:    e8 37 f8 ff ff           callq  400790 <printf@plt>
400f59:    48 8d 3d 78 05 00 00     lea    0x578(%rip),%rdi        # 4014d8 <_IO_stdin_used+0x2f8>
400f60:    e8 8b f7 ff ff           callq  4006f0 <puts@plt>
400f65:    48 c7 85 30 ff ff ff     movq   $0x0,-0xd0(%rbp)
400f6c:    00 00 00 00
400f70:    eb 48            jmp    400fba <main+0x64a>
400f72:    48 8b 95 38 ff ff ff     mov    -0xc8(%rbp),%rdx
400f79:    48 8b 85 30 ff ff ff     mov    -0xd0(%rbp),%rax
400f80:    48 01 d0                 add    %rdx,%rax
400f83:    48 89 85 48 ff ff ff     mov    %rax,-0xb8(%rbp)
400f8a:    48 8b 85 48 ff ff ff     mov    -0xb8(%rbp),%rax
400f91:    0f b6 00                 movzbl (%rax),%eax
400f94:    0f b6 d0                 movzbl %al,%edx
400f97:    48 8b 85 48 ff ff ff     mov    -0xb8(%rbp),%rax
400f9e:    48 89 c6                 mov    %rax,%rsi
400fa1:    48 8d 3d 47 05 00 00     lea    0x547(%rip),%rdi        # 4014ef <_IO_stdin_used+0x30f>
400fa8:    b8 00 00 00 00           mov    $0x0,%eax
400fad:    e8 de f7 ff ff           callq  400790 <printf@plt>
400fb2:    48 83 85 30 ff ff ff     addq   $0x1,-0xd0(%rbp)
400fb9:    01
```

```
400fba:       48 81 bd 30 ff ff ff    cmpq   $0xf9f,-0xd0(%rbp)
400fc1:       9f 0f 00 00
400fc5:       76 ab          jbe    400f72 <main+0x602>
400fc7:       83 bd f4 fe ff ff 05    cmpl   $0x5,-0x10c(%rbp)
400fce:       0f 8f d4 f9 ff ff       jg     4009a8 <main+0x38>
400fd4:       48 8d 35 25 05 00 00    lea    0x525(%rip),%rsi        # 401500 <_IO_stdin_used+0x320>
400fdb:       48 8d 3d 49 05 00 00    lea    0x549(%rip),%rdi        # 40152b <_IO_stdin_used+0x34b>
400fe2:       b8 00 00 00 00          mov    $0x0,%eax
400fe7:       e8 a4 f7 ff ff          callq  400790 <printf@plt>
400fec:       e8 4f f7 ff ff   callq  400740 <getchar@plt>
400ff1:       88 85 f2 fe ff ff       mov    %al,-0x10e(%rbp)
400ff7:       80 bd f2 fe ff ff 6e    cmpb   $0x6e,-0x10e(%rbp)
400ffe:       74 10          je     401010 <main+0x6a0>
401000:       e8 3b f7 ff ff          callq  400740 <getchar@plt>
401005:       88 85 f2 fe ff ff       mov    %al,-0x10e(%rbp)
40100b:       e9 98 f9 ff ff          jmpq   4009a8 <main+0x38>
401010:       e8 2b f7 ff ff          callq  400740 <getchar@plt>
401015:       e9 8e f9 ff ff          jmpq   4009a8 <main+0x38>
40101a:       90             nop
40101b:       48 8b 85 08 ff ff ff    mov    -0xf8(%rbp),%rax
401022:       48 89 c7                mov    %rax,%rdi
401025:       e8 a6 f6 ff ff          callq  4006d0 <free@plt>
40102a:       48 8b 85 10 ff ff ff    mov    -0xf0(%rbp),%rax
401031:       48 89 c7                mov    %rax,%rdi
401034:       e8 97 f6 ff ff          callq  4006d0 <free@plt>
401039:       48 8b 85 18 ff ff ff    mov    -0xe8(%rbp),%rax
401040:       48 89 c7                mov    %rax,%rdi
401043:       e8 88 f6 ff ff          callq  4006d0 <free@plt>
401048:       48 8b 85 20 ff ff ff    mov    -0xe0(%rbp),%rax
40104f:       48 89 c7                mov    %rax,%rdi
401052:       e8 79 f6 ff ff          callq  4006d0 <free@plt>
401057:       48 8d 3d f8 03 00 00    lea    0x3f8(%rip),%rdi        # 401456 <_IO_stdin_used+0x276>
40105e:       e8 7d f6 ff ff          callq  4006e0 <remove@plt>
401063:       48 8b 45 80             mov    -0x80(%rbp),%rax
401067:       48 89 c2                mov    %rax,%rdx
40106a:       48 8b 85 28 ff ff ff    mov    -0xd8(%rbp),%rax
401071:       48 89 d6                mov    %rdx,%rsi
401074:       48 89 c7                mov    %rax,%rdi
401077:       e8 f4 f6 ff ff   callq  400770 <munmap@plt>
40107c:       b8 00 00 00 00          mov    $0x0,%eax
401081:       48 8b 4d f8             mov    -0x8(%rbp),%rcx
401085:       64 48 33 0c 25 28 00    xor    %fs:0x28,%rcx
40108c:       00 00
40108e:       74 05          je     401095 <main+0x725>
401090:       e8 7b f6 ff ff          callq  400710 <__stack_chk_fail@plt>
401095:       c9             leaveq
401096:       c3             retq
```

```
0000000000401097 <func2>:
  401097:          55                  push   %rbp
  401098:          48 89 e5                    mov    %rsp,%rbp
  40109b:          c7 45 fc 00 00 00 00        movl   $0x0,-0x4(%rbp)
  4010a2:          eb 35               jmp    4010d9 <func2+0x42>
  4010a4:          8b 45 fc            mov    -0x4(%rbp),%eax
  4010a7:          48 98               cltq
  4010a9:          48 8d 14 85 00 00 00        lea    0x0(,%rax,4),%rdx
  4010b0:          00
  4010b1:          48 8d 05 a8 10 20 00        lea    0x2010a8(%rip),%rax        # 602160 <x2>
  4010b8:          8b 04 02                    mov    (%rdx,%rax,1),%eax
  4010bb:          8d 0c 00                    lea    (%rax,%rax,1),%ecx
  4010be:          8b 45 fc            mov    -0x4(%rbp),%eax
  4010c1:          48 98               cltq
  4010c3:          48 8d 14 85 00 00 00        lea    0x0(,%rax,4),%rdx
  4010ca:          00
  4010cb:          48 8d 05 8e 10 20 00        lea    0x20108e(%rip),%rax        # 602160 <x2>
  4010d2:          89 0c 02                    mov    %ecx,(%rdx,%rax,1)
  4010d5:          83 45 fc 01                 addl   $0x1,-0x4(%rbp)
  4010d9:          8b 05 61 10 20 00           mov    0x201061(%rip),%eax        # 602140 <sizeX2>
  4010df:          39 45 fc            cmp    %eax,-0x4(%rbp)
  4010e2:          7c c0               jl     4010a4 <func2+0xd>
  4010e4:          90                  nop
  4010e5:          5d                  pop    %rbp
  4010e6:          c3                  retq

00000000004010e7 <func3>:
  4010e7:          55                  push   %rbp
  4010e8:          48 89 e5                    mov    %rsp,%rbp
  4010eb:          c7 45 fc 00 00 00 00        movl   $0x0,-0x4(%rbp)
  4010f2:          eb 35               jmp    401129 <func3+0x42>
  4010f4:          8b 45 fc            mov    -0x4(%rbp),%eax
  4010f7:          48 98               cltq
  4010f9:          48 8d 14 85 00 00 00        lea    0x0(,%rax,4),%rdx
  401100:          00
  401101:          48 8d 05 f8 10 20 00        lea    0x2010f8(%rip),%rax        # 602200 <x3>
  401108:          8b 04 02                    mov    (%rdx,%rax,1),%eax
  40110b:          8d 0c 00                    lea    (%rax,%rax,1),%ecx
  40110e:          8b 45 fc            mov    -0x4(%rbp),%eax
  401111:          48 98               cltq
  401113:          48 8d 14 85 00 00 00        lea    0x0(,%rax,4),%rdx
  40111a:          00
  40111b:          48 8d 05 de 10 20 00        lea    0x2010de(%rip),%rax        # 602200 <x3>
  401122:          89 0c 02                    mov    %ecx,(%rdx,%rax,1)
  401125:          83 45 fc 01                 addl   $0x1,-0x4(%rbp)
  401129:          8b 05 b1 10 20 00           mov    0x2010b1(%rip),%eax        # 6021e0 <sizeX3>
  40112f:          39 45 fc            cmp    %eax,-0x4(%rbp)
  401132:          7c c0               jl     4010f4 <func3+0xd>
  401134:       90                 nop
  401135:       5d                 pop    %rbp
  401136:       c3                 retq
  401137:       66 0f 1f 84 00 00 00      nopw   0x0(%rax,%rax,1)
  40113e:       00 00

0000000000401140 <__libc_csu_init>:
  401140:       41 57              push   %r15
  401142:       41 56              push   %r14
  401144:       49 89 d7                  mov    %rdx,%r15
  401147:       41 55              push   %r13
  401149:       41 54              push   %r12
  40114b:       4c 8d 25 b6 0c 20 00      lea    0x200cb6(%rip),%r12        # 601e08
<__frame_dummy_init_array_entry>
  401152:       55                 push   %rbp
  401153:       48 8d 2d b6 0c 20 00      lea    0x200cb6(%rip),%rbp        # 601e10 <__init_array_end>
  40115a:       53                 push   %rbx
  40115b:       41 89 fd                  mov    %edi,%r13d
  40115e:       49 89 f6                  mov    %rsi,%r14
  401161:       4c 29 e5                  sub    %r12,%rbp
  401164:       48 83 ec 08               sub    $0x8,%rsp
  401168:       48 c1 fd 03               sar    $0x3,%rbp
  40116c:       e8 2f f5 ff ff     callq  4006a0 <_init>
  401171:       48 85 ed                  test   %rbp,%rbp
  401174:       74 20              je     401196 <__libc_csu_init+0x56>
  401176:       31 db              xor    %ebx,%ebx
  401178:       0f 1f 84 00 00 00 00      nopl   0x0(%rax,%rax,1)
  40117f:       00
  401180:       4c 89 fa           mov    %r15,%rdx
  401183:       4c 89 f6           mov    %r14,%rsi
  401186:       44 89 ef                  mov    %r13d,%edi
  401189:       41 ff 14 dc               callq  *(%r12,%rbx,8)
  40118d:       48 83 c3 01               add    $0x1,%rbx
  401191:       48 39 dd                  cmp    %rbx,%rbp
  401194:       75 ea              jne    401180 <__libc_csu_init+0x40>
  401196:       48 83 c4 08               add    $0x8,%rsp
  40119a:       5b                 pop    %rbx
  40119b:       5d                 pop    %rbp
  40119c:       41 5c              pop    %r12
  40119e:       41 5d              pop    %r13
  4011a0:       41 5e              pop    %r14
  4011a2:       41 5f              pop    %r15
  4011a4:       c3                 retq
  4011a5:       90                 nop
  4011a6:       66 2e 0f 1f 84 00 00      nopw   %cs:0x0(%rax,%rax,1)
  4011ad:       00 00 00

00000000004011b0 <__libc_csu_fini>:
  4011b0:           f3 c3                   repz retq
  4011b2:           66 2e 0f 1f 84 00 00        nopw   %cs:0x0(%rax,%rax,1)
  4011b9:           00 00 00
  4011bc:           0f 1f 40 00                 nopl   0x0(%rax)

00000000004011c0 <__fstat>:
  4011c0:           48 89 f2                    mov    %rsi,%rdx
  4011c3:           89 fe                   mov    %edi,%esi
  4011c5:           bf 01 00 00 00              mov    $0x1,%edi
  4011ca:           e9 91 f5 ff ff              jmpq   400760 <__fxstat@plt>

Disassembly of section .fini:

00000000004011d0 <_fini>:
  4011d0:           48 83 ec 08                 sub    $0x8,%rsp
  4011d4:           48 83 c4 08                 add    $0x8,%rsp
  4011d8:           c3                      retq
```

The output of the objdump command for module1.o:

```
module1.o:     file format elf64-x86-64
module1.o
architecture: i386:x86-64, flags 0x00000011:
HAS_RELOC, HAS_SYMS
start address 0x0000000000000000

Sections:
Idx Name          Size      VMA               LMA               File off  Algn
  0 .text         00000810  0000000000000000  0000000000000000  00000040  2**0
                  CONTENTS, ALLOC, LOAD, RELOC, READONLY, CODE
  1 .data         000000a0  0000000000000000  0000000000000000  00000860  2**5
                  CONTENTS, ALLOC, LOAD, DATA
  2 .bss          00000000  0000000000000000  0000000000000000  00000900  2**0
                  ALLOC
  3 .rodata       00000349  0000000000000000  0000000000000000  00000900  2**3
                  CONTENTS, ALLOC, LOAD, READONLY, DATA
  4 .comment      0000002a  0000000000000000  0000000000000000  00000c49  2**0
                  CONTENTS, READONLY
  5 .note.GNU-stack 00000000  0000000000000000  0000000000000000  00000c73  2**0
                  CONTENTS, READONLY
  6 .eh_frame     00000078  0000000000000000  0000000000000000  00000c78  2**3
                  CONTENTS, ALLOC, LOAD, RELOC, READONLY, DATA
SYMBOL TABLE:
0000000000000000 l    df *ABS*0000000000000000 module1.c
0000000000000000 l    d  .text  0000000000000000 .text
0000000000000000 l    d  .data  0000000000000000 .data
0000000000000000 l    d  .bss   0000000000000000 .bss
```

```
0000000000000000 l    d  .rodata          0000000000000000 .rodata
0000000000000000 l    d  .note.GNU-stack          0000000000000000 .note.GNU-stack
0000000000000000 l    d  .eh_frame        0000000000000000 .eh_frame
0000000000000000 l    d  .comment         0000000000000000 .comment
0000000000000000 g     O .data0000000000000004 sizeX
0000000000000020 g     O .data0000000000000080 x
0000000000003e80       O *COM*            0000000000000020 y
0000000000000004       O *COM*            0000000000000004 z
0000000000000000 g     F .text  0000000000000050 func1
0000000000000050 g     F .text  0000000000000099 rec_func
0000000000000000         *UND*0000000000000000 _GLOBAL_OFFSET_TABLE_
0000000000000000         *UND*0000000000000000 printf
0000000000000000         *UND*0000000000000000 memset
0000000000000000         *UND*0000000000000000 __stack_chk_fail
00000000000000e9 g     F .text  0000000000000727 main
0000000000000000         *UND*0000000000000000 sizeX2
0000000000000000         *UND*0000000000000000 x2
0000000000000000         *UND*0000000000000000 y2
0000000000000000         *UND*0000000000000000 sizeX3
0000000000000000         *UND*0000000000000000 x3
0000000000000000         *UND*0000000000000000 y3
0000000000000000         *UND*0000000000000000 func2
0000000000000000         *UND*0000000000000000 func3
0000000000000000         *UND*0000000000000000 malloc
0000000000000000         *UND*0000000000000000 open
0000000000000000         *UND*0000000000000000 write
0000000000000000         *UND*0000000000000000 fstat
0000000000000000         *UND*0000000000000000 mmap
0000000000000000         *UND*0000000000000000 puts
0000000000000000         *UND*0000000000000000 getchar
0000000000000000         *UND*0000000000000000 free
0000000000000000         *UND*0000000000000000 remove
0000000000000000         *UND*0000000000000000 munmap



Disassembly of section .text:

0000000000000000 <func1>:
   0:     55                    push   %rbp
   1:     48 89 e5                      mov    %rsp,%rbp
   4:     c7 45 fc 00 00 00 00      movl   $0x0,-0x4(%rbp)
   b:     eb 35                 jmp    42 <func1+0x42>
   d:     8b 45 fc              mov    -0x4(%rbp),%eax
  10:     48 98                 cltq
  12:     48 8d 14 85 00 00 00      lea    0x0(,%rax,4),%rdx
  19:     00
  1a:     48 8d 05 00 00 00 00      lea    0x0(%rip),%rax        # 21 <func1+0x21>
```

```
                        1d: R_X86_64_PC32     x-0x4
  21:   8b 04 02                    mov    (%rdx,%rax,1),%eax
  24:   8d 0c 00                    lea    (%rax,%rax,1),%ecx
  27:   8b 45 fc        mov    -0x4(%rbp),%eax
  2a:   48 98           cltq
  2c:   48 8d 14 85 00 00 00        lea    0x0(,%rax,4),%rdx
  33:   00
  34:   48 8d 05 00 00 00 00        lea    0x0(%rip),%rax        # 3b <func1+0x3b>
                        37: R_X86_64_PC32     x-0x4
  3b:   89 0c 02                    mov    %ecx,(%rdx,%rax,1)
  3e:   83 45 fc 01                 addl   $0x1,-0x4(%rbp)
  42:   8b 05 00 00 00 00           mov    0x0(%rip),%eax        # 48 <func1+0x48>
                        44: R_X86_64_PC32     sizeX-0x4
  48:   39 45 fc        cmp    %eax,-0x4(%rbp)
  4b:   7c c0           jl     d <func1+0xd>
  4d:   90              nop
  4e:   5d              pop    %rbp
  4f:   c3              retq

0000000000000050 <rec_func>:
  50:   55              push   %rbp
  51:   48 89 e5                    mov    %rsp,%rbp
  54:   48 81 ec 70 c3 00 00        sub    $0xc370,%rsp
  5b:   89 bd 9c 3c ff ff           mov    %edi,-0xc364(%rbp)
  61:   64 48 8b 04 25 28 00        mov    %fs:0x28,%rax
  68:   00 00
  6a:   48 89 45 f8                 mov    %rax,-0x8(%rbp)
  6e:   31 c0           xor    %eax,%eax
  70:   48 8d 85 9c 3c ff ff        lea    -0xc364(%rbp),%rax
  77:   48 89 c6                    mov    %rax,%rsi
  7a:   48 8d 3d 00 00 00 00        lea    0x0(%rip),%rdi        # 81 <rec_func+0x31>
                        7d: R_X86_64_PC32     .rodata-0x4
  81:   b8 00 00 00 00              mov    $0x0,%eax
  86:   e8 00 00 00 00              callq  8b <rec_func+0x3b>
                        87: R_X86_64_PLT32   printf-0x4
  8b:   48 8d 85 a0 3c ff ff        lea    -0xc360(%rbp),%rax
  92:   ba 50 c3 00 00              mov    $0xc350,%edx
  97:   be 00 00 00 00              mov    $0x0,%esi
  9c:   48 89 c7                    mov    %rax,%rdi
  9f:   e8 00 00 00 00              callq  a4 <rec_func+0x54>
                        a0: R_X86_64_PLT32   memset-0x4
  a4:   8b 85 9c 3c ff ff           mov    -0xc364(%rbp),%eax
  aa:   83 f8 04                    cmp    $0x4,%eax
  ad:   7e 08           jle    b7 <rec_func+0x67>
  af:   8b 85 9c 3c ff ff           mov    -0xc364(%rbp),%eax
  b5:   eb 1c           jmp    d3 <rec_func+0x83>
  b7:   8b 85 9c 3c ff ff           mov    -0xc364(%rbp),%eax
  bd:   83 c0 01                    add    $0x1,%eax
  c0:	89 85 9c 3c ff ff    	mov    %eax,-0xc364(%rbp)
  c6:	8b 85 9c 3c ff ff    	mov    -0xc364(%rbp),%eax
  cc:	89 c7                	mov    %eax,%edi
  ce:	e8 00 00 00 00       	callq  d3 <rec_func+0x83>
			cf: R_X86_64_PC32	rec_func-0x4
  d3:	48 8b 4d f8          	mov    -0x8(%rbp),%rcx
  d7:	64 48 33 0c 25 28 00 	xor    %fs:0x28,%rcx
  de:	00 00 
  e0:	74 05                	je     e7 <rec_func+0x97>
  e2:	e8 00 00 00 00       	callq  e7 <rec_func+0x97>
			e3: R_X86_64_PLT32	__stack_chk_fail-0x4
  e7:	c9                   	leaveq 
  e8:	c3                   	retq   

00000000000000e9 <main>:
  e9:	55                   	push   %rbp
  ea:	48 89 e5             	mov    %rsp,%rbp
  ed:	48 81 ec 20 01 00 00 	sub    $0x120,%rsp
  f4:	89 bd ec fe ff ff    	mov    %edi,-0x114(%rbp)
  fa:	48 89 b5 e0 fe ff ff 	mov    %rsi,-0x120(%rbp)
 101:	64 48 8b 04 25 28 00 	mov    %fs:0x28,%rax
 108:	00 00 
 10a:	48 89 45 f8          	mov    %rax,-0x8(%rbp)
 10e:	31 c0                	xor    %eax,%eax
 110:	c7 85 f4 fe ff ff 00 	movl   $0x0,-0x10c(%rbp)
 117:	00 00 00 
 11a:	c6 85 f2 fe ff ff 6e 	movb   $0x6e,-0x10e(%rbp)
 121:	80 bd f2 fe ff ff 6e 	cmpb   $0x6e,-0x10e(%rbp)
 128:	0f 85 12 06 00 00    	jne    740 <main+0x657>
 12e:	83 85 f4 fe ff ff 01 	addl   $0x1,-0x10c(%rbp)
 135:	83 bd f4 fe ff ff 01 	cmpl   $0x1,-0x10c(%rbp)
 13c:	0f 85 eb 01 00 00    	jne    32d <main+0x244>
 142:	48 8d 35 00 00 00 00 	lea    0x0(%rip),%rsi        # 149 <main+0x60>
			145: R_X86_64_PC32	.rodata+0x15
 149:	48 8d 3d 00 00 00 00 	lea    0x0(%rip),%rdi        # 150 <main+0x67>
			14c: R_X86_64_PC32	.rodata+0x1c
 150:	b8 00 00 00 00       	mov    $0x0,%eax
 155:	e8 00 00 00 00       	callq  15a <main+0x71>
			156: R_X86_64_PLT32	printf-0x4
 15a:	48 8d 05 00 00 00 00 	lea    0x0(%rip),%rax        # 161 <main+0x78>
			15d: R_X86_64_PC32	sizeX-0x4
 161:	48 89 c6             	mov    %rax,%rsi
 164:	48 8d 3d 00 00 00 00 	lea    0x0(%rip),%rdi        # 16b <main+0x82>
			167: R_X86_64_PC32	.rodata+0x28
 16b:	b8 00 00 00 00       	mov    $0x0,%eax
 170:	e8 00 00 00 00       	callq  175 <main+0x8c>
			171: R_X86_64_PLT32	printf-0x4
 175:	48 8d 05 00 00 00 00 	lea    0x0(%rip),%rax        # 17c <main+0x93>
```

```
                        178: R_X86_64_PC32   x-0x4
17c:    48 89 c6                mov    %rax,%rsi
17f:    48 8d 3d 00 00 00 00    lea    0x0(%rip),%rdi        # 186 <main+0x9d>
                        182: R_X86_64_PC32   .rodata+0x45
186:    b8 00 00 00 00          mov    $0x0,%eax
18b:    e8 00 00 00 00          callq  190 <main+0xa7>
                        18c: R_X86_64_PLT32 printf-0x4
190:    48 8d 05 00 00 00 00    lea    0x0(%rip),%rax        # 197 <main+0xae>
                        193: R_X86_64_PC32   y-0x4
197:    48 89 c6                mov    %rax,%rsi
19a:    48 8d 3d 00 00 00 00    lea    0x0(%rip),%rdi        # 1a1 <main+0xb8>
                        19d: R_X86_64_PC32   .rodata+0x5f
1a1:    b8 00 00 00 00          mov    $0x0,%eax
1a6:    e8 00 00 00 00          callq  1ab <main+0xc2>
                        1a7: R_X86_64_PLT32 printf-0x4
1ab:    48 8d 05 00 00 00 00    lea    0x0(%rip),%rax        # 1b2 <main+0xc9>
                        1ae: R_X86_64_PC32   z-0x4
1b2:    48 89 c6                mov    %rax,%rsi
1b5:    48 8d 3d 00 00 00 00    lea    0x0(%rip),%rdi        # 1bc <main+0xd3>
                        1b8: R_X86_64_PC32   .rodata+0x79
1bc:    b8 00 00 00 00          mov    $0x0,%eax
1c1:    e8 00 00 00 00          callq  1c6 <main+0xdd>
                        1c2: R_X86_64_PLT32 printf-0x4
1c6:    48 8d 05 00 00 00 00    lea    0x0(%rip),%rax        # 1cd <main+0xe4>
                        1c9: R_X86_64_PC32   sizeX2-0x4
1cd:    48 89 c6                mov    %rax,%rsi
1d0:    48 8d 3d 00 00 00 00    lea    0x0(%rip),%rdi        # 1d7 <main+0xee>
                        1d3: R_X86_64_PC32   .rodata+0x93
1d7:    b8 00 00 00 00          mov    $0x0,%eax
1dc:    e8 00 00 00 00          callq  1e1 <main+0xf8>
                        1dd: R_X86_64_PLT32 printf-0x4
1e1:    48 8d 05 00 00 00 00    lea    0x0(%rip),%rax        # 1e8 <main+0xff>
                        1e4: R_X86_64_PC32   x2-0x4
1e8:    48 89 c6                mov    %rax,%rsi
1eb:    48 8d 3d 00 00 00 00    lea    0x0(%rip),%rdi        # 1f2 <main+0x109>
                        1ee: R_X86_64_PC32   .rodata+0xb1
1f2:    b8 00 00 00 00          mov    $0x0,%eax
1f7:    e8 00 00 00 00          callq  1fc <main+0x113>
                        1f8: R_X86_64_PLT32  printf-0x4
1fc:    48 8d 05 00 00 00 00    lea    0x0(%rip),%rax        # 203 <main+0x11a>
                        1ff: R_X86_64_PC32     y2-0x4
203:    48 89 c6                mov    %rax,%rsi
206:    48 8d 3d 00 00 00 00    lea    0x0(%rip),%rdi        # 20d <main+0x124>
                        209: R_X86_64_PC32   .rodata+0xcc
20d:    b8 00 00 00 00          mov    $0x0,%eax
212:    e8 00 00 00 00          callq  217 <main+0x12e>
                        213: R_X86_64_PLT32 printf-0x4
217:    48 8d 05 00 00 00 00    lea    0x0(%rip),%rax        # 21e <main+0x135>
```

```
                        21a: R_X86_64_PC32   sizeX3-0x4
 21e:   48 89 c6                mov    %rax,%rsi
 221:   48 8d 3d 00 00 00 00    lea    0x0(%rip),%rdi        # 228 <main+0x13f>
                        224: R_X86_64_PC32   .rodata+0xe7
 228:   b8 00 00 00 00          mov    $0x0,%eax
 22d:   e8 00 00 00 00          callq  232 <main+0x149>
                        22e: R_X86_64_PLT32 printf-0x4
 232:   48 8d 05 00 00 00 00    lea    0x0(%rip),%rax        # 239 <main+0x150>
                        235: R_X86_64_PC32   x3-0x4
 239:   48 89 c6                mov    %rax,%rsi
 23c:   48 8d 3d 00 00 00 00    lea    0x0(%rip),%rdi        # 243 <main+0x15a>
                        23f: R_X86_64_PC32   .rodata+0x105
 243:   b8 00 00 00 00          mov    $0x0,%eax
 248:   e8 00 00 00 00          callq  24d <main+0x164>
                        249: R_X86_64_PLT32 printf-0x4
 24d:   48 8d 05 00 00 00 00    lea    0x0(%rip),%rax        # 254 <main+0x16b>
                        250: R_X86_64_PC32   y3-0x4
 254:   48 89 c6                mov    %rax,%rsi
 257:   48 8d 3d 00 00 00 00    lea    0x0(%rip),%rdi        # 25e <main+0x175>
                        25a: R_X86_64_PC32   .rodata+0x120
 25e:   b8 00 00 00 00          mov    $0x0,%eax
 263:   e8 00 00 00 00          callq  268 <main+0x17f>
                        264: R_X86_64_PLT32 printf-0x4
 268:   48 8d 05 00 00 00 00    lea    0x0(%rip),%rax        # 26f <main+0x186>
                        26b: R_X86_64_PC32   main-0x4
 26f:   48 89 c6                mov    %rax,%rsi
 272:   48 8d 3d 00 00 00 00    lea    0x0(%rip),%rdi        # 279 <main+0x190>
                        275: R_X86_64_PC32   .rodata+0x13b
 279:   b8 00 00 00 00          mov    $0x0,%eax
 27e:   e8 00 00 00 00          callq  283 <main+0x19a>
                        27f: R_X86_64_PLT32  printf-0x4
 283:   48 8d 05 00 00 00 00    lea    0x0(%rip),%rax        # 28a <main+0x1a1>
                        286: R_X86_64_PC32   rec_func-0x4
 28a:   48 89 c6                mov    %rax,%rsi
 28d:   48 8d 3d 00 00 00 00    lea    0x0(%rip),%rdi        # 294 <main+0x1ab>
                        290: R_X86_64_PC32   .rodata+0x15c
 294:   b8 00 00 00 00          mov    $0x0,%eax
 299:   e8 00 00 00 00          callq  29e <main+0x1b5>
                        29a: R_X86_64_PLT32 printf-0x4
 29e:   48 8d 05 00 00 00 00    lea    0x0(%rip),%rax        # 2a5 <main+0x1bc>
                        2a1: R_X86_64_PC32   func1-0x4
 2a5:   48 89 c6                mov    %rax,%rsi
 2a8:   48 8d 3d 00 00 00 00    lea    0x0(%rip),%rdi        # 2af <main+0x1c6>
                        2ab: R_X86_64_PC32   .rodata+0x17c
 2af:   b8 00 00 00 00          mov    $0x0,%eax
 2b4:   e8 00 00 00 00          callq  2b9 <main+0x1d0>
                        2b5: R_X86_64_PLT32 printf-0x4
 2b9:   48 8b 05 00 00 00 00    mov    0x0(%rip),%rax        # 2c0 <main+0x1d7>
```

```
                        2bc: R_X86_64_REX_GOTPCRELX      func2-0x4
 2c0:   48 89 c6                mov    %rax,%rsi
 2c3:   48 8d 3d 00 00 00 00    lea    0x0(%rip),%rdi        # 2ca <main+0x1e1>
                        2c6: R_X86_64_PC32   .rodata+0x199
 2ca:   b8 00 00 00 00          mov    $0x0,%eax
 2cf:   e8 00 00 00 00          callq  2d4 <main+0x1eb>
                        2d0: R_X86_64_PLT32 printf-0x4
 2d4:   48 8b 05 00 00 00 00    mov    0x0(%rip),%rax        # 2db <main+0x1f2>
                        2d7: R_X86_64_REX_GOTPCRELX      func3-0x4
 2db:   48 89 c6                mov    %rax,%rsi
 2de:   48 8d 3d 00 00 00 00    lea    0x0(%rip),%rdi        # 2e5 <main+0x1fc>
                        2e1: R_X86_64_PC32   .rodata+0x1b6
 2e5:   b8 00 00 00 00          mov    $0x0,%eax
 2ea:   e8 00 00 00 00          callq  2ef <main+0x206>
                        2eb: R_X86_64_PLT32 printf-0x4
 2ef:   48 8b 05 00 00 00 00    mov    0x0(%rip),%rax        # 2f6 <main+0x20d>
                        2f2: R_X86_64_REX_GOTPCRELX      printf-0x4
 2f6:   48 89 c6                mov    %rax,%rsi
 2f9:   48 8d 3d 00 00 00 00    lea    0x0(%rip),%rdi        # 300 <main+0x217>
                        2fc: R_X86_64_PC32   .rodata+0x1d3
 300:   b8 00 00 00 00          mov    $0x0,%eax
 305:   e8 00 00 00 00          callq  30a <main+0x221>
                        306: R_X86_64_PLT32 printf-0x4
 30a:   b8 00 00 00 00          mov    $0x0,%eax
 30f:   e8 00 00 00 00          callq  314 <main+0x22b>
                        310: R_X86_64_PC32   func1-0x4
 314:   b8 00 00 00 00          mov    $0x0,%eax
 319:   e8 00 00 00 00          callq  31e <main+0x235>
                        31a: R_X86_64_PLT32 func2-0x4
 31e:   b8 00 00 00 00          mov    $0x0,%eax
 323:   e8 00 00 00 00          callq  328 <main+0x23f>
                        324: R_X86_64_PLT32 func3-0x4
 328:   e9 13 04 00 00          jmpq   740 <main+0x657>
 32d:   83 bd f4 fe ff ff 02    cmpl   $0x2,-0x10c(%rbp)
 334:   0f 85 cd 00 00 00       jne    407 <main+0x31e>
 33a:   48 8d 35 00 00 00 00    lea    0x0(%rip),%rsi        # 341 <main+0x258>
                        33d: R_X86_64_PC32   .rodata+0x1f1
 341:   48 8d 3d 00 00 00 00    lea    0x0(%rip),%rdi        # 348 <main+0x25f>
                        344: R_X86_64_PC32   .rodata+0x1c
 348:   b8 00 00 00 00          mov    $0x0,%eax
 34d:   e8 00 00 00 00          callq  352 <main+0x269>
                        34e: R_X86_64_PLT32 printf-0x4
 352:   bf 20 a1 07 00          mov    $0x7a120,%edi
 357:   e8 00 00 00 00          callq  35c <main+0x273>
                        358: R_X86_64_PLT32 malloc-0x4
 35c:   48 89 85 08 ff ff ff    mov    %rax,-0xf8(%rbp)
 363:   bf 20 a1 07 00          mov    $0x7a120,%edi
 368:   e8 00 00 00 00          callq  36d <main+0x284>
```

```
                        369: R_X86_64_PLT32 malloc-0x4
36d:    48 89 85 10 ff ff ff        mov    %rax,-0xf0(%rbp)
374:    bf 20 a1 07 00              mov    $0x7a120,%edi
379:    e8 00 00 00 00              callq  37e <main+0x295>
                        37a: R_X86_64_PLT32 malloc-0x4
37e:    48 89 85 18 ff ff ff        mov    %rax,-0xe8(%rbp)
385:    bf 20 a1 07 00              mov    $0x7a120,%edi
38a:    e8 00 00 00 00              callq  38f <main+0x2a6>
                        38b: R_X86_64_PLT32 malloc-0x4
38f:    48 89 85 20 ff ff ff        mov    %rax,-0xe0(%rbp)
396:    48 8b 85 08 ff ff ff        mov    -0xf8(%rbp),%rax
39d:    48 89 c6                    mov    %rax,%rsi
3a0:    48 8d 3d 00 00 00 00        lea    0x0(%rip),%rdi        # 3a7 <main+0x2be>
                        3a3: R_X86_64_PC32   .rodata+0x1f8
3a7:    b8 00 00 00 00              mov    $0x0,%eax
3ac:    e8 00 00 00 00              callq  3b1 <main+0x2c8>
                        3ad: R_X86_64_PLT32 printf-0x4
3b1:    48 8b 85 10 ff ff ff        mov    -0xf0(%rbp),%rax
3b8:    48 89 c6                    mov    %rax,%rsi
3bb:    48 8d 3d 00 00 00 00        lea    0x0(%rip),%rdi        # 3c2 <main+0x2d9>
                        3be: R_X86_64_PC32   .rodata+0x211
3c2:    b8 00 00 00 00              mov    $0x0,%eax
3c7:    e8 00 00 00 00              callq  3cc <main+0x2e3>
                        3c8: R_X86_64_PLT32 printf-0x4
3cc:    48 8b 85 18 ff ff ff        mov    -0xe8(%rbp),%rax
3d3:    48 89 c6                    mov    %rax,%rsi
3d6:    48 8d 3d 00 00 00 00        lea    0x0(%rip),%rdi        # 3dd <main+0x2f4>
                        3d9: R_X86_64_PC32   .rodata+0x22a
3dd:    b8 00 00 00 00              mov    $0x0,%eax
3e2:    e8 00 00 00 00              callq  3e7 <main+0x2fe>
                        3e3: R_X86_64_PLT32 printf-0x4
3e7:    48 8b 85 20 ff ff ff        mov    -0xe0(%rbp),%rax
3ee:    48 89 c6                    mov    %rax,%rsi
3f1:    48 8d 3d 00 00 00 00        lea    0x0(%rip),%rdi        # 3f8 <main+0x30f>
                        3f4: R_X86_64_PC32   .rodata+0x243
3f8:    b8 00 00 00 00              mov    $0x0,%eax
3fd:    e8 00 00 00 00              callq  402 <main+0x319>
                        3fe: R_X86_64_PLT32  printf-0x4
402:    e9 39 03 00 00              jmpq   740 <main+0x657>
407:    83 bd f4 fe ff ff 03        cmpl   $0x3,-0x10c(%rbp)
40e:    75 27                   jne    437 <main+0x34e>
410:    48 8d 35 00 00 00 00        lea    0x0(%rip),%rsi        # 417 <main+0x32e>
                        413: R_X86_64_PC32   .rodata+0x25c
417:    48 8d 3d 00 00 00 00        lea    0x0(%rip),%rdi        # 41e <main+0x335>
                        41a: R_X86_64_PC32   .rodata+0x1c
41e:    b8 00 00 00 00              mov    $0x0,%eax
423:    e8 00 00 00 00              callq  428 <main+0x33f>
                        424: R_X86_64_PLT32 printf-0x4
```

```
428:    bf 01 00 00 00            mov    $0x1,%edi
42d:    e8 00 00 00 00            callq  432 <main+0x349>
                         42e: R_X86_64_PC32   rec_func-0x4
432:    e9 09 03 00 00            jmpq   740 <main+0x657>
437:    83 bd f4 fe ff ff 04      cmpl   $0x4,-0x10c(%rbp)
43e:    0f 85 f1 00 00 00         jne    535 <main+0x44c>
444:    48 8d 35 00 00 00 00      lea    0x0(%rip),%rsi        # 44b <main+0x362>
                         447: R_X86_64_PC32   .rodata+0x263
44b:    48 8d 3d 00 00 00 00      lea    0x0(%rip),%rdi        # 452 <main+0x369>
                         44e: R_X86_64_PC32   .rodata+0x1c
452:    b8 00 00 00 00            mov    $0x0,%eax
457:    e8 00 00 00 00            callq  45c <main+0x373>
                         458: R_X86_64_PLT32 printf-0x4
45c:    ba ff 01 00 00            mov    $0x1ff,%edx
461:    be 42 00 00 00            mov    $0x42,%esi
466:    48 8d 3d 00 00 00 00      lea    0x0(%rip),%rdi        # 46d <main+0x384>
                         469: R_X86_64_PC32   .rodata+0x26a
46d:    b8 00 00 00 00            mov    $0x0,%eax
472:    e8 00 00 00 00            callq  477 <main+0x38e>
                         473: R_X86_64_PLT32 open-0x4
477:    89 85 04 ff ff ff         mov    %eax,-0xfc(%rbp)
47d:    48 b8 6d 75 6e 69 62      movabs $0x726d6562696e756d,%rax
484:    65 6d 72
487:    48 89 45 ed               mov    %rax,-0x13(%rbp)
48b:    66 c7 45 f5 65 0a         movw   $0xa65,-0xb(%rbp)
491:    c6 45 f7 00               movb   $0x0,-0x9(%rbp)
495:    c7 85 f8 fe ff ff 00      movl   $0x0,-0x108(%rbp)
49c:    00 00 00
49f:    eb 20            jmp    4c1 <main+0x3d8>
4a1:    48 8d 4d ed               lea    -0x13(%rbp),%rcx
4a5:    8b 85 04 ff ff ff         mov    -0xfc(%rbp),%eax
4ab:    ba 0a 00 00 00            mov    $0xa,%edx
4b0:    48 89 ce                  mov    %rcx,%rsi
4b3:    89 c7            mov    %eax,%edi
4b5:    e8 00 00 00 00            callq  4ba <main+0x3d1>
                         4b6: R_X86_64_PLT32 write-0x4
4ba:    83 85 f8 fe ff ff 01      addl   $0x1,-0x108(%rbp)
4c1:    81 bd f8 fe ff ff af      cmpl   $0x1adaf,-0x108(%rbp)
4c8:    ad 01 00
4cb:    7e d4            jle    4a1 <main+0x3b8>
4cd:    48 8d 95 50 ff ff ff      lea    -0xb0(%rbp),%rdx
4d4:    8b 85 04 ff ff ff         mov    -0xfc(%rbp),%eax
4da:    48 89 d6                  mov    %rdx,%rsi
4dd:    89 c7            mov    %eax,%edi
4df:    e8 00 00 00 00            callq  4e4 <main+0x3fb>
                         4e0: R_X86_64_PLT32 fstat-0x4
4e4:    48 8b 45 80               mov    -0x80(%rbp),%rax
4e8:    48 89 c6                  mov    %rax,%rsi
```

```
4eb:    8b 85 04 ff ff ff          mov    -0xfc(%rbp),%eax
4f1:    41 b9 00 00 00 00          mov    $0x0,%r9d
4f7:    41 89 c0                   mov    %eax,%r8d
4fa:    b9 01 00 00 00             mov    $0x1,%ecx
4ff:    ba 03 00 00 00             mov    $0x3,%edx
504:    bf 00 00 00 00             mov    $0x0,%edi
509:    e8 00 00 00 00             callq  50e <main+0x425>
                           50a: R_X86_64_PLT32 mmap-0x4
50e:    48 89 85 28 ff ff ff       mov    %rax,-0xd8(%rbp)
515:    48 8b 85 28 ff ff ff       mov    -0xd8(%rbp),%rax
51c:    48 89 c6                   mov    %rax,%rsi
51f:    48 8d 3d 00 00 00 00       lea    0x0(%rip),%rdi        # 526 <main+0x43d>
                           522: R_X86_64_PC32   .rodata+0x274
526:    b8 00 00 00 00             mov    $0x0,%eax
52b:    e8 00 00 00 00             callq  530 <main+0x447>
                           52c: R_X86_64_PLT32 printf-0x4
530:    e9 0b 02 00 00             jmpq   740 <main+0x657>
535:    83 bd f4 fe ff ff 05       cmpl   $0x5,-0x10c(%rbp)
53c:    0f 85 cf 00 00 00          jne    611 <main+0x528>
542:    48 8d 35 00 00 00 00       lea    0x0(%rip),%rsi        # 549 <main+0x460>
                           545: R_X86_64_PC32   .rodata+0x296
549:    48 8d 3d 00 00 00 00       lea    0x0(%rip),%rdi        # 550 <main+0x467>
                           54c: R_X86_64_PC32   .rodata+0x1c
550:    b8 00 00 00 00             mov    $0x0,%eax
555:    e8 00 00 00 00             callq  55a <main+0x471>
                           556: R_X86_64_PLT32 printf-0x4
55a:    48 b8 0a 73 65 76 69       movabs $0x65676c697665730a,%rax
561:    6c 67 65
564:    48 89 45 ed                mov    %rax,-0x13(%rbp)
568:    66 c7 45 f5 6e 0a          movw   $0xa6e,-0xb(%rbp)
56e:    c6 45 f7 00                movb   $0x0,-0x9(%rbp)
572:    c7 85 fc fe ff ff 00       movl   $0x0,-0x104(%rbp)
579:    00 00 00
57c:    eb 4a              jmp    5c8 <main+0x4df>
57e:    8b 8d fc fe ff ff          mov    -0x104(%rbp),%ecx
584:    ba 67 66 66 66             mov    $0x66666667,%edx
589:    89 c8              mov    %ecx,%eax
58b:    f7 ea              imul   %edx
58d:    c1 fa 02           sar    $0x2,%edx
590:    89 c8              mov    %ecx,%eax
592:    c1 f8 1f           sar    $0x1f,%eax
595:    29 c2              sub    %eax,%edx
597:    89 d0              mov    %edx,%eax
599:    c1 e0 02                   shl    $0x2,%eax
59c:    01 d0              add    %edx,%eax
59e:    01 c0              add    %eax,%eax
5a0:    29 c1              sub    %eax,%ecx
5a2:    89 ca              mov    %ecx,%edx
```

```
5a4:   8b 85 fc fe ff ff       mov    -0x104(%rbp),%eax
5aa:   48 63 c8                movslq %eax,%rcx
5ad:   48 8b 85 28 ff ff ff    mov    -0xd8(%rbp),%rax
5b4:   48 01 c1                add    %rax,%rcx
5b7:   48 63 c2                movslq %edx,%rax
5ba:   0f b6 44 05 ed          movzbl -0x13(%rbp,%rax,1),%eax
5bf:   88 01           mov    %al,(%rcx)
5c1:   83 85 fc fe ff ff 01    addl   $0x1,-0x104(%rbp)
5c8:   83 bd fc fe ff ff 63    cmpl   $0x63,-0x104(%rbp)
5cf:   7e ad           jle    57e <main+0x495>
5d1:   c7 85 00 ff ff ff 00    movl   $0x0,-0x100(%rbp)
5d8:   00 00 00
5db:   eb 23           jmp    600 <main+0x517>
5dd:   8b 85 00 ff ff ff       mov    -0x100(%rbp),%eax
5e3:   48 63 d0                movslq %eax,%rdx
5e6:   48 8b 85 28 ff ff ff    mov    -0xd8(%rbp),%rax
5ed:   48 01 d0                add    %rdx,%rax
5f0:   0f b6 00                movzbl (%rax),%eax
5f3:   88 85 f3 fe ff ff       mov    %al,-0x10d(%rbp)
5f9:   83 85 00 ff ff ff 01    addl   $0x1,-0x100(%rbp)
600:   81 bd 00 ff ff ff e7    cmpl   $0x3e7,-0x100(%rbp)
607:   03 00 00
60a:   7e d1           jle    5dd <main+0x4f4>
60c:   e9 2f 01 00 00          jmpq   740 <main+0x657>
611:   83 bd f4 fe ff ff 06    cmpl   $0x6,-0x10c(%rbp)
618:   0f 85 75 01 00 00       jne    793 <main+0x6aa>
61e:   48 8d 35 00 00 00 00    lea    0x0(%rip),%rsi        # 625 <main+0x53c>
                       621: R_X86_64_PC32   .rodata+0x29d
625:   48 8d 3d 00 00 00 00    lea    0x0(%rip),%rdi        # 62c <main+0x543>
                       628: R_X86_64_PC32   .rodata+0x1c
62c:   b8 00 00 00 00          mov    $0x0,%eax
631:   e8 00 00 00 00          callq  636 <main+0x54d>
                       632: R_X86_64_PLT32 printf-0x4
636:   48 8d 05 00 00 00 00    lea    0x0(%rip),%rax        # 63d <main+0x554>
                       639: R_X86_64_PC32   main-0x4
63d:   48 89 85 38 ff ff ff    mov    %rax,-0xc8(%rbp)
644:   48 8b 85 38 ff ff ff    mov    -0xc8(%rbp),%rax
64b:   48 89 c6                mov    %rax,%rsi
64e:   48 8d 3d 00 00 00 00    lea    0x0(%rip),%rdi        # 655 <main+0x56c>
                       651: R_X86_64_PC32   .rodata+0x2a4
655:   b8 00 00 00 00          mov    $0x0,%eax
65a:   e8 00 00 00 00          callq  65f <main+0x576>
                       65b: R_X86_64_PLT32 printf-0x4
65f:   48 8b 8d 38 ff ff ff    mov    -0xc8(%rbp),%rcx
666:   48 89 c8                mov    %rcx,%rax
669:   48 c1 e8 05             shr    $0x5,%rax
66d:   48 ba 7d 3f 35 5e ba    movabs $0x20c49ba5e353f7d,%rdx
674:   49 0c 02
```

```
677:    48 f7 e2                  mul    %rdx
67a:    48 69 c2 a0 0f 00 00      imul   $0xfa0,%rdx,%rax
681:    48 29 c1                  sub    %rax,%rcx
684:    48 89 c8                  mov    %rcx,%rax
687:    48 89 85 40 ff ff ff      mov    %rax,-0xc0(%rbp)
68e:    48 8b 85 40 ff ff ff      mov    -0xc0(%rbp),%rax
695:    48 89 c6                  mov    %rax,%rsi
698:    48 8d 3d 00 00 00 00      lea    0x0(%rip),%rdi        # 69f <main+0x5b6>
                     69b: R_X86_64_PC32   .rodata+0x2c0
69f:    b8 00 00 00 00            mov    $0x0,%eax
6a4:    e8 00 00 00 00            callq  6a9 <main+0x5c0>
                     6a5: R_X86_64_PLT32 printf-0x4
6a9:    48 8b 85 40 ff ff ff      mov    -0xc0(%rbp),%rax
6b0:    48 29 85 38 ff ff ff      sub    %rax,-0xc8(%rbp)
6b7:    48 8b 85 38 ff ff ff      mov    -0xc8(%rbp),%rax
6be:    48 89 c6                  mov    %rax,%rsi
6c1:    48 8d 3d 00 00 00 00      lea    0x0(%rip),%rdi        # 6c8 <main+0x5df>
                     6c4: R_X86_64_PC32   .rodata+0x2d4
6c8:    b8 00 00 00 00            mov    $0x0,%eax
6cd:    e8 00 00 00 00            callq  6d2 <main+0x5e9>
                     6ce: R_X86_64_PLT32 printf-0x4
6d2:    48 8d 3d 00 00 00 00      lea    0x0(%rip),%rdi        # 6d9 <main+0x5f0>
                     6d5: R_X86_64_PC32   .rodata+0x2ec
6d9:    e8 00 00 00 00            callq  6de <main+0x5f5>
                     6da: R_X86_64_PLT32 puts-0x4
6de:    48 c7 85 30 ff ff ff      movq   $0x0,-0xd0(%rbp)
6e5:    00 00 00 00
6e9:    eb 48                jmp    733 <main+0x64a>
6eb:    48 8b 95 38 ff ff ff      mov    -0xc8(%rbp),%rdx
6f2:    48 8b 85 30 ff ff ff      mov    -0xd0(%rbp),%rax
6f9:    48 01 d0                  add    %rdx,%rax
6fc:    48 89 85 48 ff ff ff      mov    %rax,-0xb8(%rbp)
703:    48 8b 85 48 ff ff ff      mov    -0xb8(%rbp),%rax
70a:    0f b6 00                  movzbl (%rax),%eax
70d:    0f b6 d0                  movzbl %al,%edx
710:    48 8b 85 48 ff ff ff      mov    -0xb8(%rbp),%rax
717:    48 89 c6                  mov    %rax,%rsi
71a:    48 8d 3d 00 00 00 00      lea    0x0(%rip),%rdi        # 721 <main+0x638>
                     71d: R_X86_64_PC32   .rodata+0x303
721:    b8 00 00 00 00            mov    $0x0,%eax
726:    e8 00 00 00 00            callq  72b <main+0x642>
                     727: R_X86_64_PLT32 printf-0x4
72b:    48 83 85 30 ff ff ff      addq   $0x1,-0xd0(%rbp)
732:    01
733:    48 81 bd 30 ff ff ff      cmpq   $0xf9f,-0xd0(%rbp)
73a:    9f 0f 00 00
73e:    76 ab                jbe    6eb <main+0x602>
740:    83 bd f4 fe ff ff 05      cmpl   $0x5,-0x10c(%rbp)
```

```
747:    0f 8f d4 f9 ff ff            jg     121 <main+0x38>
74d:    48 8d 35 00 00 00 00         lea    0x0(%rip),%rsi        # 754 <main+0x66b>
                        750: R_X86_64_PC32   .rodata+0x314
754:    48 8d 3d 00 00 00 00         lea    0x0(%rip),%rdi        # 75b <main+0x672>
                        757: R_X86_64_PC32   .rodata+0x33f
75b:    b8 00 00 00 00               mov    $0x0,%eax
760:    e8 00 00 00 00               callq  765 <main+0x67c>
                        761: R_X86_64_PLT32 printf-0x4
765:    e8 00 00 00 00               callq  76a <main+0x681>
                        766: R_X86_64_PLT32 getchar-0x4
76a:    88 85 f2 fe ff ff            mov    %al,-0x10e(%rbp)
770:    80 bd f2 fe ff ff 6e         cmpb   $0x6e,-0x10e(%rbp)
777:    74 10                   je     789 <main+0x6a0>
779:    e8 00 00 00 00               callq  77e <main+0x695>
                        77a: R_X86_64_PLT32 getchar-0x4
77e:    88 85 f2 fe ff ff            mov    %al,-0x10e(%rbp)
784:    e9 98 f9 ff ff               jmpq   121 <main+0x38>
789:    e8 00 00 00 00               callq  78e <main+0x6a5>
                        78a: R_X86_64_PLT32 getchar-0x4
78e:    e9 8e f9 ff ff               jmpq   121 <main+0x38>
793:    90                      nop
794:    48 8b 85 08 ff ff ff         mov    -0xf8(%rbp),%rax
79b:    48 89 c7                     mov    %rax,%rdi
79e:    e8 00 00 00 00               callq  7a3 <main+0x6ba>
                        79f: R_X86_64_PLT32  free-0x4
7a3:    48 8b 85 10 ff ff ff         mov    -0xf0(%rbp),%rax
7aa:    48 89 c7                     mov    %rax,%rdi
7ad:    e8 00 00 00 00               callq  7b2 <main+0x6c9>
                        7ae: R_X86_64_PLT32 free-0x4
7b2:    48 8b 85 18 ff ff ff         mov    -0xe8(%rbp),%rax
7b9:    48 89 c7                     mov    %rax,%rdi
7bc:    e8 00 00 00 00               callq  7c1 <main+0x6d8>
                        7bd: R_X86_64_PLT32 free-0x4
7c1:    48 8b 85 20 ff ff ff         mov    -0xe0(%rbp),%rax
7c8:    48 89 c7                     mov    %rax,%rdi
7cb:    e8 00 00 00 00               callq  7d0 <main+0x6e7>
                        7cc: R_X86_64_PLT32  free-0x4
7d0:    48 8d 3d 00 00 00 00         lea    0x0(%rip),%rdi        # 7d7 <main+0x6ee>
                        7d3: R_X86_64_PC32   .rodata+0x26a
7d7:    e8 00 00 00 00               callq  7dc <main+0x6f3>
                        7d8: R_X86_64_PLT32 remove-0x4
7dc:    48 8b 45 80                  mov    -0x80(%rbp),%rax
7e0:    48 89 c2                     mov    %rax,%rdx
7e3:    48 8b 85 28 ff ff ff         mov    -0xd8(%rbp),%rax
7ea:    48 89 d6                     mov    %rdx,%rsi
7ed:    48 89 c7                     mov    %rax,%rdi
7f0:    e8 00 00 00 00               callq  7f5 <main+0x70c>
                        7f1: R_X86_64_PLT32  munmap-0x4
```

```
 7f5:    b8 00 00 00 00           mov    $0x0,%eax
 7fa:    48 8b 4d f8              mov    -0x8(%rbp),%rcx
 7fe:    64 48 33 0c 25 28 00     xor    %fs:0x28,%rcx
 805:    00 00
 807:    74 05             je     80e <main+0x725>
 809:    e8 00 00 00 00           callq  80e <main+0x725>
                          80a: R_X86_64_PLT32 __stack_chk_fail-0x4
 80e:    c9                leaveq
 80f:    c3                retq
```

The output of the objdump command for module2.o:

```
module2.o:     file format elf64-x86-64
module2.o
architecture: i386:x86-64, flags 0x00000011:
HAS_RELOC, HAS_SYMS
start address 0x0000000000000000

Sections:
Idx Name          Size      VMA               LMA               File off  Algn
  0 .text         00000050  0000000000000000  0000000000000000  00000040  2**0
                  CONTENTS, ALLOC, LOAD, RELOC, READONLY, CODE
  1 .data         000000a0  0000000000000000  0000000000000000  000000a0  2**5
                  CONTENTS, ALLOC, LOAD, DATA
  2 .bss          00000000  0000000000000000  0000000000000000  00000140  2**0
                  ALLOC
  3 .comment      0000002a  0000000000000000  0000000000000000  00000140  2**0
                  CONTENTS, READONLY
  4 .note.GNU-stack 00000000  0000000000000000  0000000000000000  0000016a  2**0
                  CONTENTS, READONLY
  5 .eh_frame     00000038  0000000000000000  0000000000000000  00000170  2**3
                  CONTENTS, ALLOC, LOAD, RELOC, READONLY, DATA
SYMBOL TABLE:
0000000000000000 l    df *ABS*0000000000000000 module2.c
0000000000000000 l    d  .text   0000000000000000 .text
0000000000000000 l    d  .data  0000000000000000 .data
0000000000000000 l    d  .bss   0000000000000000 .bss
0000000000000000 l    d  .note.GNU-stack         0000000000000000 .note.GNU-stack
0000000000000000 l    d  .eh_frame       0000000000000000 .eh_frame
0000000000000000 l    d  .comment        0000000000000000 .comment
0000000000000000 g     O .data0000000000000004 sizeX2
0000000000000020 g     O .data0000000000000080 x2
0000000000003e80       O *COM*           0000000000000020 y2
0000000000000000 g     F .text  0000000000000050 func2



Disassembly of section .text:
```

```
0000000000000000 <func2>:
  0:     55                  push   %rbp
  1:     48 89 e5                    mov    %rsp,%rbp
  4:     c7 45 fc 00 00 00 00        movl   $0x0,-0x4(%rbp)
  b:     eb 35               jmp    42 <func2+0x42>
  d:     8b 45 fc            mov    -0x4(%rbp),%eax
 10:     48 98               cltq
 12:     48 8d 14 85 00 00 00        lea    0x0(,%rax,4),%rdx
 19:     00
 1a:     48 8d 05 00 00 00 00        lea    0x0(%rip),%rax        # 21 <func2+0x21>
                         1d: R_X86_64_PC32     x2-0x4
 21:     8b 04 02                    mov    (%rdx,%rax,1),%eax
 24:     8d 0c 00                    lea    (%rax,%rax,1),%ecx
 27:     8b 45 fc            mov    -0x4(%rbp),%eax
 2a:     48 98               cltq
 2c:     48 8d 14 85 00 00 00        lea    0x0(,%rax,4),%rdx
 33:     00
 34:     48 8d 05 00 00 00 00        lea    0x0(%rip),%rax        # 3b <func2+0x3b>
                         37: R_X86_64_PC32     x2-0x4
 3b:     89 0c 02                    mov    %ecx,(%rdx,%rax,1)
 3e:     83 45 fc 01                 addl   $0x1,-0x4(%rbp)
 42:     8b 05 00 00 00 00           mov    0x0(%rip),%eax        # 48 <func2+0x48>
                         44: R_X86_64_PC32     sizeX2-0x4
 48:     39 45 fc            cmp    %eax,-0x4(%rbp)
 4b:     7c c0               jl     d <func2+0xd>
 4d:     90                  nop
 4e:     5d                  pop    %rbp
 4f:     c3                  retq
```

The output of the objdump command for module3.o:

```
module3.o:     file format elf64-x86-64
module3.o
architecture: i386:x86-64, flags 0x00000011:
HAS_RELOC, HAS_SYMS
start address 0x0000000000000000

Sections:
Idx Name          Size      VMA               LMA               File off  Algn
  0 .text         00000050  0000000000000000  0000000000000000  00000040  2**0
                  CONTENTS, ALLOC, LOAD, RELOC, READONLY, CODE
  1 .data         000000a0  0000000000000000  0000000000000000  000000a0  2**5
                  CONTENTS, ALLOC, LOAD, DATA
  2 .bss          00000000  0000000000000000  0000000000000000  00000140  2**0
                  ALLOC
  3 .comment      0000002a  0000000000000000  0000000000000000  00000140  2**0
                  CONTENTS, READONLY
  4 .note.GNU-stack 00000000  0000000000000000  0000000000000000  0000016a  2**0
                  CONTENTS, READONLY
  5 .eh_frame     00000038  0000000000000000  0000000000000000  00000170  2**3
                  CONTENTS, ALLOC, LOAD, RELOC, READONLY, DATA
SYMBOL TABLE:
0000000000000000 l    df *ABS*0000000000000000 module3.c
0000000000000000 l    d  .text   0000000000000000 .text
0000000000000000 l    d  .data  0000000000000000 .data
0000000000000000 l    d  .bss   0000000000000000 .bss
0000000000000000 l    d  .note.GNU-stack         0000000000000000 .note.GNU-stack
0000000000000000 l    d  .eh_frame       0000000000000000 .eh_frame
0000000000000000 l    d  .comment        0000000000000000 .comment
0000000000000000 g     O .data0000000000000004 sizeX3
0000000000000020 g     O .data0000000000000080 x3
0000000000003e80       O *COM*           0000000000000020 y3
0000000000000000 g     F .text  0000000000000050 func3



Disassembly of section .text:

0000000000000000 <func3>:
   0:      55                    push   %rbp
   1:      48 89 e5                      mov    %rsp,%rbp
   4:      c7 45 fc 00 00 00 00      movl   $0x0,-0x4(%rbp)
   b:      eb 35                 jmp    42 <func3+0x42>
   d:      8b 45 fc              mov    -0x4(%rbp),%eax
  10:      48 98                 cltq
  12:      48 8d 14 85 00 00 00     lea    0x0(,%rax,4),%rdx
  19:      00
  1a:      48 8d 05 00 00 00 00     lea    0x0(%rip),%rax        # 21 <func3+0x21>
                                 1d: R_X86_64_PC32     x3-0x4
  21:      8b 04 02                      mov    (%rdx,%rax,1),%eax
  24:      8d 0c 00                      lea    (%rax,%rax,1),%ecx
  27:      8b 45 fc              mov    -0x4(%rbp),%eax
  2a:      48 98                 cltq
  2c:      48 8d 14 85 00 00 00     lea    0x0(,%rax,4),%rdx
  33:      00
  34:      48 8d 05 00 00 00 00     lea    0x0(%rip),%rax        # 3b <func3+0x3b>
                                 37: R_X86_64_PC32     x3-0x4
  3b:      89 0c 02                      mov    %ecx,(%rdx,%rax,1)
  3e:      83 45 fc 01                   addl   $0x1,-0x4(%rbp)
  42:      8b 05 00 00 00 00          mov    0x0(%rip),%eax        # 48 <func3+0x48>
                                 44: R_X86_64_PC32     sizeX3-0x4
  48:      39 45 fc              cmp    %eax,-0x4(%rbp)
  4b:      7c c0                 jl     d <func3+0xd>
  4d:      90                    nop
  4e:      5d                    pop    %rbp
  4f:	c3                   	retq
```

Source code of the module1.c:

```
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
#include <fcntl.h>
#include <sys/mman.h>
#include <sys/stat.h>

// Initialized
int sizeX = 32;
int x[32] = {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17,
                                        18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31}; // 128 Bytes

// Not initialized
int y[4000]; // 16 KB
int z;

// Functions and the variables of the other modules
void func2();
void func3();
extern int sizeX2;
extern int x2[];
extern int y2[];
extern int sizeX3;
extern int x3[];
extern int y3[];


void func1() {
        for(int i = 0; i < sizeX; ++i){
                x[i] = x[i] * 2;
        }
}

// Recursive function
int rec_func(int i){
        printf("Address of i\t= 0x%016lx\n", (unsigned long int) &i);
        int a[12500] = {0}; // 50 KB

        if (i > 4){

                return i;
        }
        return rec_func(++i);
}
```

```
int main(int argc, char const *argv[]) {
    int step = 0;
    char ch = 'n';
    int* a;
    int* b;
    int* c;
    int* d;
    struct stat sb;
    char* mmappedData;
    while (1){
        if (ch == 'n'){
            ++step;
            if (step == 1){
                printf("\n%s\n------\n", "Step 1");

                // Step 1
                printf("Address of sizeX\t= 0x%016lx\n", (unsigned long int) &sizeX);
                printf("Address of x\t\t= 0x%016lx\n", (unsigned long int) &x);
                printf("Address of y\t\t= 0x%016lx\n", (unsigned long int) &y);
                printf("Address of z\t\t= 0x%016lx\n", (unsigned long int) &z);
                printf("Address of sizeX2\t= 0x%016lx\n", (unsigned long int) &sizeX2);
                printf("Address of x2\t\t= 0x%016lx\n", (unsigned long int) &x2);
                printf("Address of y2\t\t= 0x%016lx\n", (unsigned long int) &y2);
                printf("Address of sizeX3\t= 0x%016lx\n", (unsigned long int) &sizeX3);
                printf("Address of x3\t\t= 0x%016lx\n", (unsigned long int) &x3);
                printf("Address of y3\t\t= 0x%016lx\n", (unsigned long int) &y3);

                printf("Address of main\t\t= 0x%016lx\n", (unsigned long int) &main);
                printf("Address of rec_func\t= 0x%016lx\n", (unsigned long int)
&rec_func);
                printf("Address of func1\t= 0x%016lx\n", (unsigned long int) &func1);
                printf("Address of func2\t= 0x%016lx\n", (unsigned long int) &func2);
                printf("Address of func3\t= 0x%016lx\n", (unsigned long int) &func3);
                printf("Address of printf\t= 0x%016lx\n", (unsigned long int) &printf);

                func1();
                func2();
                func3();
            }
            else if (step == 2) {
                printf("\n%s\n------\n", "Step 2");

                // Step 2
                a = malloc(500000); // 0.5 MB
                b = malloc(500000); // 0.5 MB
                c = malloc(500000); // 0.5 MB
                d = malloc(500000); // 0.5 MB
                printf("Address of a\t= 0x%016lx\n", (void *) a);
                printf("Address of b\t= 0x%016lx\n", (void *) b);
                printf("Address of c\t= 0x%016lx\n", (void *) c);
                printf("Address of d\t= 0x%016lx\n", (void *) d);
            }
            else if (step == 3){
                printf("\n%s\n------\n", "Step 3");

                // Step 3
                rec_func(1);
            }
            else if (step == 4){
                printf("\n%s\n------\n", "Step 4");

                // Step 4
                int fd = open("./file", O_RDWR | O_CREAT, 0777);
                char buf[] = "munibemre\n";
                for(int i = 0; i < 110000; ++i)
                    write(fd, buf, 10);

                fstat(fd, &sb);
              mmappedData = mmap(NULL, sb.st_size, PROT_WRITE | PROT_READ,
MAP_SHARED, fd, 0);
                printf("Address of mmapedData\t= 0x%016lx\n", mmappedData);

            }
            else if (step == 5){
                printf("\n%s\n------\n", "Step 5");

                // Step 5
                char buf[] = "\nsevilgen\n";
                char c;
                for(int i = 0; i < 100; ++i)
                    mmappedData[i] = buf[i%10];
                for(int i = 0; i < 1000; ++i)
                    c = mmappedData[i];
            }
            else if (step == 6){
                printf("\n%s\n------\n", "Step 6");

                // Step 6
                unsigned long int address = &main;
                printf("Address of main\t= 0x%016lx\n", address);

                unsigned long int offset = address % 0xFA0;
                printf("Offset\t\t= 0x%016lx\n", offset);
```

```
                address = address - offset;
                printf("Page adress\t= 0x%016lx\n", address);

                printf("\nContent of the page: \n");
                unsigned char* val;
                for (unsigned long int i = 0; i < 0xFA0; ++i) {
                    val = address + i;
                    printf("0x%016lx:\t %02x\n", val, val[0]);
                }
            }
            else {
                break;
            }
        }
        if (step < 6){
            printf("\n%s: ", "Enter n to get the output of the next step");
            ch = getchar();
            if (ch != 'n')
                ch = getchar();
            else
                getchar();

        }
    }
    free(a);
    free(b);
    free(c);
    free(d);
    remove("./file");
    munmap(mmappedData, sb.st_size);
    return 0;
}
```

Source code of the module2.c:

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

// Initialized
int sizeX2 = 32;
int x2[32] = {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17,
                18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31}; // 128 Bytes

// Not initialized
int y2[4000]; // 16 KB

void func2() {
    for(int i = 0; i < sizeX2; ++i){
        x2[i] = x2[i] * 2;
    }

}
```

Source code of the module3.c:

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

// Initialized
int sizeX3 = 32;
int x3[32] = {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17,
                                18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31}; // 128 Bytes

// Not initialized
int y3[4000]; // 16 KB

void func3() {
    for(int i = 0; i < sizeX3; ++i){
        x3[i] = x3[i] * 2;
    }
}
```