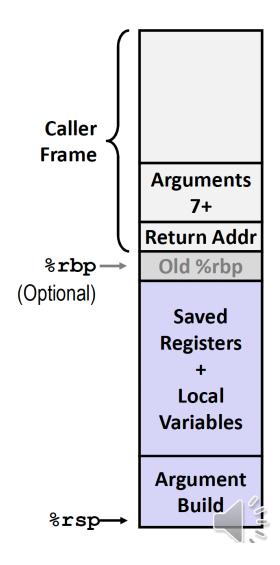
Registers

First 6 arguments

%rdi
%rsi
%rdx
%rcx
%r8
%r9

Return value

%rax



```
unsigned int factorial (unsigned int x)
  if (x==0)
    return 0;
  else
    if (x==1)
      return 1;
    else
     return x*factorial(x-1);
int main( int argc, const char* argv[] )
  int x;
 x=atoi(argv[1]);
  printf("%d %d\n", x, factorial(x));
 return 1;
```

```
000000000040059d <main>:
                                                             40059d:
                                                                          53
                                                                                                        %rbx
                                                                                                  push
unsigned int factorial (unsigned int x)
                                                             40059e:
                                                                          48 8b 7e 08
                                                                                                         0x8(%rsi),%rdi
                                                                                                  mov
                                                             4005a2:
                                                                          ba 0a 00 00 00
                                                                                                         $0xa,%edx
                                                                                                  mov
                                                             4005a7:
                                                                          be 00 00 00 00
                                                                                                         $0x0,%esi
                                                                                                  mov
   if (x==0)
                                                             4005ac:
                                                                                                        400480 <strtol@plt>
                                                                          e8 cf fe ff ff
                                                                                                  callq
     return 0;
                                                             4005b1:
                                                                          48 89 c3
                                                                                                         %rax,%rbx
                                                                                                  mov
                                                             4005b4:
                                                                          89 c7
                                                                                                         %eax,%edi
                                                                                                  mov
   else
                                                             4005b6:
                                                                                                        40057d <factorial>
                                                                          e8 c2 ff ff ff
                                                                                                  callq
     if (x==1)
                                                             4005bb:
                                                                          89 c2
                                                                                                         %eax,%edx
                                                                                                  mov
                                                             4005bd:
                                                                          89 de
                                                                                                         %ebx,%esi
                                                                                                  mov
        return 1;
                                                             4005bf:
                                                                          bf 70 06 40 00
                                                                                                  mov
                                                                                                         $0x400670,%edi
     else
                                                             4005c4:
                                                                          b8 00 00 00 00
                                                                                                         $0x0,%eax
                                                                                                  mov
                                                             4005c9:
                                                                          e8 82 fe ff ff
                                                                                                  callq 400450 <printf@plt>
        return x*factorial(x-1);
                                                             4005ce:
                                                                          b8 01 00 00 00
                                                                                                         $0x1,%eax
                                                                                                  mov
                                                             4005d3:
                                                                          5b
                                                                                                         %rbx
                                                                                                  pop
                                                             4005d4:
                                                                          с3
                                                                                                  retq
                                                             4005d5:
                                                                          66 2e 0f 1f 84 00 00
                                                                                                        %cs:0x0(%rax,%rax,1)
                                                                                                  nopw
int main( int argc, const char* argv[] )
                                                             4005dc:
                                                                          00 00 00
                                                             4005df:
                                                                          90
                                                                                                  nop
  int x;
                                                        000000000040057d <factorial>:
                                                          40057d:
                                                                        53
                                                                                               push
                                                                                                     %rbx
  x=atoi(argv[1]);
                                                          40057e:
                                                                        89 fb
                                                                                                     %edi,%ebx
                                                                                               mov
                                                          400580:
                                                                       b8 00 00 00 00
                                                                                                     $0x0,%eax
                                                                                               mov
                                                          400585:
                                                                        85 ff
                                                                                                     %edi,%edi
                                                                                               test
  printf("%d %d\n", x, factorial(x));
                                                          400587:
                                                                        74 12
                                                                                                     40059b <factorial+0x1e>
                                                                                               iе
                                                          400589:
                                                                       b0 01
                                                                                                     $0x1,%al
                                                                                               mov
                                                          40058b:
                                                                       83 ff 01
                                                                                                     $0x1,%edi
                                                                                               cmp
  return 1;
                                                          40058e:
                                                                        74 0b
                                                                                                     40059b <factorial+0x1e>
                                                                                               jе
                                                                       8d 7f ff
                                                          400590:
                                                                                                     -0x1(%rdi),%edi
                                                                                               lea
                                                          400593:
                                                                        e8 e5 ff ff ff
                                                                                               callq 40057d <factorial>
                                                                       0f af c3
                                                          400598:
                                                                                               imul
                                                                                                     %ebx,%eax
                                                          40059b:
                                                                       5b
                                                                                                     %rbx
                                                                                               pop
                                                          40059c:
                                                                        с3
                                                                                               retq
```

```
[(gdb) break *0x4005b6
Breakpoint 1 at 0x4005b6
[(gdb) run
```

```
(qdb) i r
rax
                0x4
                          4
                          4
rbx
                0x4
rcx
                0x0
                          0
                          10
rdx
                0xa
rsi
                0x0
                          0
rdi
                0x4
                          4
rbp
                          0x0
                0x0
rsp
                0x7fffffffe000
                                   0x7fffffffe000
r8
                0x7ffff7dd5060
                                  140737351864416
r9
                                   140737488348173
                0x7fffffffe40d
r10
                0x4
                          4
r11
                0x0
                          0
r12
                0x400490 4195472
r13
                                  140737488347360
                0x7fffffffe0e0
r14
                0x0
                          0
r15
                0x0
                          0
                0x4005b6 0x4005b6 <main+25>
rip
```

```
000000000040059d <main>:
  40059d:
                53
                                          push
                                                 %rbx
  40059e:
                 48 8b 7e 08
                                                 0x8(%rsi),%rdi
                                          mov
  4005a2:
                ba 0a 00 00 00
                                                 $0xa,%edx
                                          mov
  4005a7:
                be 00 00 00 00
                                                 $0x0,%esi
                                          mov
  4005ac:
                e8 cf fe ff ff
                                                 400480 <strtol@plt>
                                          callq
  4005b1:
                48 89 c3
                                                 %rax,%rbx
                                          mov
  4005b4:
                89 c7
                                                 %eax,%edi
                                          mov
  4005b6:
                 e8 c2 ff ff ff
                                          callq
                                                 40057d <factorial>
  4005bb:
                89 c2
                                                 %eax,%edx
                                          mov
  4005bd:
                89 de
                                                 %ebx,%esi
                                          mov
  4005bf:
                bf 70 06 40 00
                                                 $0x400670,%edi
                                          mov
                b8 00 00 00 00
  4005c4:
                                                 $0x0,%eax
                                          mov
                                                 400450 <printf@plt>
  4005c9:
                e8 82 fe ff ff
                                          calla
  4005ce:
                b8 01 00 00 00
                                                 $0x1,%eax
                                          mov
  4005d3:
                                                 %rbx
                5b
                                          pop
  4005d4:
                с3
                                          retq
                                                 %cs:0x0(%rax,%rax,1)
  4005d5:
                 66 2e 0f 1f 84 00 00
                                          nopw
  4005dc:
                 00 00 00
  4005df:
                90
                                          nop
```

```
(gdb) x/32bx $rsp
0x7fffffffe000: 0x00
                          0x00
                                                    0x00
                                                             0x00
                                                                     0x00
                                   0x00
                                           0x00
                                                                              0x00
0x7fffffffe008: 0x55
                          0xf5
                                                    0xff
                                                             0x7f
                                                                     0x00
                                   0xa2
                                           0xf7
                                                                              0x00
0x7fffffffe010: 0x00
                          0x00
                                   0x00
                                           0x00
                                                    0x00
                                                             0x00
                                                                     0x00
                                                                              0x00
0x7fffffffe018: 0xe8
                          0xe0
                                   0xff
                                           0xff
                                                    0xff
                                                             0x7f
                                                                     0x00
                                                                              0x00
```

```
(gdb) i r
                0x4
                          4
rax
                          4
rbx
                0x4
rcx
                0x0
                          0
rdx
                0xa
                          10
rsi
                0x0
                          0
rdi
                          4
                0x4
rbp
                0x0
                          0x0
                0x7fffffffdff8
                                   0x7fffffffff8
rsp
r8
                0x7ffff7dd5060
                                  140737351864416
r9
                0x7fffffffe40d
                                   140737488348173
r10
                0x4
                          4
r11
                          0
                0x0
r12
                0x400490 4195472
r13
                0x7fffffffe0e0
                                  140737488347360
r14
                0x0
                          0
r15
                          0
                0x0
rip
                0x40057d 0x40057d <factorial>
```

```
000000000040059d <main>:
  40059d:
                53
                                         push
                                                %rbx
  40059e:
                48 8b 7e 08
                                                 0x8(%rsi),%rdi
                                         mov
  4005a2:
                ba 0a 00 00 00
                                                 $0xa,%edx
                                         mov
  4005a7:
                be 00 00 00 00
                                                $0x0,%esi
                                         mov
                                         callq 400480 <strtol@plt>
  4005ac:
                e8 cf fe ff ff
  4005b1:
                48 89 c3
                                                %rax,%rbx
                                         mov
  4005b4:
                89 c7
                                                %eax,%edi
                                         mov
  4005b6:
                e8 c2 ff ff ff
                                         callq 40057d <factorial>
  4005bb:
                89 c2
                                                 %eax,%edx
                                         mov
```

```
000000000040057d <factorial>:
  40057d:
                53
                                          push
                                                 %rbx
  40057e:
                89 fb
                                                 %edi,%ebx
                                          mov
  400580:
                b8 00 00 00 00
                                                 $0x0,%eax
                                          mov
                85 ff
  400585:
                                                 %edi,%edi
                                          test
  400587:
                74 12
                                          jе
                                                 40059b <factorial+0x1e>
  400589:
                b0 01
                                          mov
                                                 $0x1,%al
  40058b:
                83 ff 01
                                                 $0x1,%edi
                                          cmp
  40058e:
                74 0b
                                          iе
                                                 40059b <factorial+0x1e>
                8d 7f ff
  400590:
                                                 -0x1(%rdi),%edi
                                          lea
  400593:
                e8 e5 ff ff ff
                                                 40057d <factorial>
                                          callq
  400598:
                0f af c3
                                                 %ebx,%eax
                                          imul
  40059b:
                5b
                                                 %rbx
                                          pop
  40059c:
                с3
                                          retq
```

```
(gdb) x/32bx $rsp
0x7fffffffffff8: 0xbb
                                   0x40
                          0x05
                                            0x00
                                                    0x00
                                                             0x00
                                                                      0x00
                                                                               0x00
0x7fffffffe000: 0x00
                          0x00
                                   0x00
                                            0x00
                                                     0x00
                                                             0x00
                                                                      0x00
                                                                               0x00
0x7fffffffe008: 0x55
                          0xf5
                                                             0x7f
                                   0xa2
                                            0xf7
                                                    0xff
                                                                      0x00
                                                                               0x00
0x7fffffffe010: 0x00
                          0x00
                                   0x00
                                                             0x00
                                            0x00
                                                     0x00
                                                                      0x00
                                                                               0x00
```

[(gdb) break *0x40059b Breakpoint 3 at 0x40059b

```
[(gdb) c
Continuing.
Breakpoint 3, 0x000000000040059b in factorial ()
```

[(gdb) i r			
rax	0x1	1	
rbx	0x1	1	
rcx	0x0	0	
rdx	0xa	10	
rsi	0x0	0	
rdi	0x1	1	
rbp	0x0	0x0	
rsp	0x7fffff	ffdfc0	0x7fffffffdfc0
r8	0x7ffff7	dd5060	140737351864416
r9	0x7fffff	ffe40d	140737488348173
r10	0x4	4	
r11	0x0	0	
r12	0x400490	4195472	
r13	0x7fffff	ffe0e0	140737488347360
r14	0x0	0	
r15	0x0	0	
rip	0x40059b	0x400591	b <factorial+30></factorial+30>
(/ 11) /4001			

```
000000000040059d <main>:
  40059d:
                53
                                         push
                                               %rbx
 40059e:
                48 8b 7e 08
                                               0x8(%rsi),%rdi
                                        mov
  4005a2:
                ba 0a 00 00 00
                                               $0xa,%edx
                                        mov
  4005a7:
                be 00 00 00 00
                                               $0x0,%esi
                                        mov
                                        callq 400480 <strtol@plt>
  4005ac:
                e8 cf fe ff ff
  4005b1:
                48 89 c3
                                               %rax,%rbx
                                        mov
  4005b4:
                89 c7
                                               %eax,%edi
                                        mov
 4005b6:
                e8 c2 ff ff ff
                                        callq 40057d <factorial>
  4005bb:
                89 c2
                                               %eax,%edx
                                         mov
```

0000000000400	57d <factorial>:</factorial>	
40057d:	53	push %rbx
40057e:	89 fb	mov %edi,%ebx
400580:	b8 00 00 00 00	mov \$0x0,%eax
400585:	85 ff	test %edi,%edi
400587:	74 12	je 40059b <factorial+0x1e></factorial+0x1e>
400589:	b0 01	mov \$0x1,%al
40058b:	83 ff 01	cmp \$0x1,%edi
40058e:	74 0b	je 40059b <factorial+0x1e></factorial+0x1e>
400590:	8d 7f ff	lea -0x1(%rdi),%edi
400593:	e8 e5 ff ff ff	callq 40057d <factorial></factorial>
400598:	0f af c3	imul %ebx,%eax
40059b:	5b	pop %rbx
40059c:	c3	retq

```
[(gdb) x/128bx $rsp
0x7fffffffffc0: 0x02
                                                                             0x00
                          0x00
                                  0x00
                                           0x00
                                                   0x00
                                                            0x00
                                                                     0x00
0x7ffffffffdfc8: 0x98
                          0x05
                                  0x40
                                           0x00
                                                   0x00
                                                            0x00
                                                                     0x00
                                                                             0x00
0x7fffffffdfd0: 0x03
                          0x00
                                  0x00
                                           0x00
                                                   0x00
                                                            0x00
                                                                     0x00
                                                                             0x00
0x7fffffffdfd8: 0x98
                          0x05
                                  0x40
                                           0x00
                                                   0x00
                                                            0x00
                                                                    0x00
                                                                             0x00
0x7ffffffffdfe0: 0x04
                          0x00
                                  0x00
                                           0x00
                                                   0x00
                                                            0x00
                                                                    0x00
                                                                             0x00
0x7ffffffffdfe8: 0x98
                          0x05
                                  0x40
                                           0x00
                                                   0x00
                                                            0x00
                                                                    0x00
                                                                             0x00
0x7ffffffffff6: 0x04
                          0x00
                                                   0x00
                                                                     0x00
                                                                             0x00
                                  0x00
                                           0x00
                                                            0x00
0x7ffffffffff8: 0xbb
                          0x05
                                  0x40
                                           0x00
                                                   0x00
                                                            0x00
                                                                     0x00
                                                                             0x00
```

```
(gdb) c
Continuing.
Breakpoint 3, 0x000000000040059b in factorial ()
(gdb) i r
rax
               0x2
                         2
                         2
rbx
               0x2
rcx
               0x0
                         0
rdx
                        10
               0xa
rsi
               0x0
                         0
rdi
               0x1
                        1
rbp
               0x0
                        0x0
               0x7fffffffdfd0
                                 0x7fffffffdfd0
rsp
r8
               0x7ffff7dd5060
                                 140737351864416
r9
               0x7fffffffe40d
                                 140737488348173
r10
               0x4
                         4
r11
               0x0
                         0
r12
               0x400490 4195472
r13
               0x7fffffffe0e0
                                 140737488347360
r14
               0x0
                         0
r15
               0x0
                         0
rip
               0x40059b 0x40059b <factorial+30>
```

```
000000000040059d <main>:
  40059d:
                53
                                        push
                                               %rbx
  40059e:
                48 8b 7e 08
                                               0x8(%rsi),%rdi
                                        mov
  4005a2:
                ba 0a 00 00 00
                                               $0xa,%edx
                                        mov
  4005a7:
                be 00 00 00 00
                                               $0x0,%esi
                                        mov
  4005ac:
                e8 cf fe ff ff
                                        callq 400480 <strtol@plt>
  4005b1:
                48 89 c3
                                               %rax,%rbx
                                        mov
                89 c7
  4005b4:
                                               %eax,%edi
                                        mov
  4005b6:
                e8 c2 ff ff ff
                                        callq 40057d <factorial>
                                               %eax,%edx
  4005bb:
                89 c2
                                        mov
```

00000000000400	957d <factorial>:</factorial>	
40057d:	53	push %rbx
40057e:	89 fb	mov %edi,%ebx
400580:	b8 00 00 00 00	mov \$0x0,%eax
400585:	85 ff	test %edi,%edi
400587:	74 12	je 40059b <factorial+0x1e></factorial+0x1e>
400589:	b0 01	mov \$0x1,%al
40058b:	83 ff 01	cmp \$0x1,%edi
40058e:	74 0b	je 40059b <factorial+0x1e></factorial+0x1e>
400590:	8d 7f ff	lea -0x1(%rdi),%edi
400593:	e8 e5 ff ff ff	callq 40057d <factorial></factorial>
400598:	0f af c3	imul %ebx,%eax
40059b:	5b	pop %rbx
40059c:	c3	retq

(gdb) x/128bx \$rsp	p						
0x7ffffffffdfd0: 0x	x03 0x00	0×00	0x00	0x00	0x00	0x00	0x00
0x7ffffffffdfd8: 0x	x98 0x05	0×40	0x00	0x00	0x00	0x00	0x00
0x7ffffffffdfe0: 0x	x04 0x00	0×00	0x00	0x00	0x00	0x00	0x00
0x7ffffffffdfe8: 0x	x98 0x05	0x40	0x00	0x00	0x00	0x00	0x00
0x7ffffffffdff0: 0x	x04 0x00	0×00	0x00	0x00	0x00	0x00	0x00
0x7ffffffffdff8: 0x	xbb 0x05	0×40	0x00	0x00	0x00	0x00	0x00
0x7fffffffdff0: 0x	x04 0x00	0x00	0x00	0x00	0x00	0x00	0x

```
(gdb) c
Continuing.
Breakpoint 3, 0x000000000040059b in factorial ()
(gdb) i r
rax
               0x6
                        6
                        3
rbx
               0x3
                        0
rcx
               0x0
rdx
                        10
               0xa
rsi
               0x0
                        0
rdi
                        1
               0x1
rbp
               0x0
                         0x0
rsp
               0x7fffffffdfe0
                                 0x7fffffffdfe0
r8
                                 140737351864416
               0x7ffff7dd5060
r9
               0x7fffffffe40d
                                140737488348173
r10
               0x4
                        4
                        0
r11
               0x0
r12
               0x400490 4195472
r13
               0x7fffffffe0e0
                                140737488347360
r14
               0x0
                        0
r15
               0x0
                         0
rip
               0x40059b 0x40059b <factorial+30>
```

```
000000000040059d <main>:
  40059d:
                53
                                        push
                                               %rbx
 40059e:
                48 8b 7e 08
                                               0x8(%rsi),%rdi
                                        mov
  4005a2:
                ba 0a 00 00 00
                                               $0xa,%edx
                                        mov
  4005a7:
                be 00 00 00 00
                                               $0x0,%esi
                                        mov
 4005ac:
                e8 cf fe ff ff
                                        callq 400480 <strtol@plt>
                48 89 c3
  4005b1:
                                               %rax,%rbx
                                        mov
                89 c7
  4005b4:
                                               %eax,%edi
                                        mov
 4005b6:
                e8 c2 ff ff ff
                                        callq 40057d <factorial>
                                               %eax,%edx
  4005bb:
                89 c2
                                        mov
```

0000000000400	57d <factorial>:</factorial>	
40057d:	53	push %rbx
40057e:	89 fb	mov %edi,%ebx
400580:	b8 00 00 00 00	mov \$0x0,%eax
400585:	85 ff	test %edi,%edi
400587:	74 12	je 40059b <factorial+0x1e></factorial+0x1e>
400589:	b0 01	mov \$0x1,%al
40058b:	83 ff 01	cmp \$0x1,%edi
40058e:	74 0b	je 40059b <factorial+0x1e></factorial+0x1e>
400590:	8d 7f ff	lea -0x1(%rdi),%edi
400593:	e8 e5 ff ff ff	callq 40057d <factorial></factorial>
400598:	0f af c3	imul %ebx,%eax
40059b:	5b	pop %rbx
40059c:	c3	retq

[(gdb) x/128bx \$rs	sp						
0x7ffffffffdfe0: 0	0x04 0x00	0x00	0x00	0x00	0x00	0x00	0x00
0x7ffffffffdfe8: 0	0x98 0x05	0x40	0x00	0x00	0x00	0x00	0x00
0x7fffffffdff0: 0	0x04 0x00	0x00	0x00	0x00	0x00	0x00	0x00
0x7ffffffffdff8: 0	0xbb 0x05	0x40	0x00	0x00	0x00	0x00	0x00

```
(gdb) c
Continuing.
Breakpoint 3, 0x000000000040059b in factorial ()
(gdb) i r
                         24
               0x18
rax
rbx
                         4
               0x4
               0x0
                         0
rcx
rdx
                         10
               0xa
rsi
               0x0
                         0
rdi
                         1
               0x1
rbp
                         0x0
               0x0
                                 0x7fffffffffff0
rsp
               0x7ffffffffff0
r8
               0x7ffff7dd5060
                                 140737351864416
r9
                                 140737488348173
               0x7fffffffe40d
r10
               0x4
                         4
r11
               0x0
                         0
r12
               0x400490 4195472
r13
               0x7fffffffe0e0
                                 140737488347360
r14
                         0
               0x0
r15
               0x0
                         0
               0x40059b 0x40059b <factorial+30>
rip
```

```
000000000040059d <main>:
  40059d:
                53
                                        push
                                               %rbx
 40059e:
                48 8b 7e 08
                                               0x8(%rsi),%rdi
                                        mov
  4005a2:
                ba 0a 00 00 00
                                               $0xa,%edx
                                        mov
  4005a7:
                be 00 00 00 00
                                               $0x0,%esi
                                        mov
 4005ac:
                e8 cf fe ff ff
                                        callq 400480 <strtol@plt>
                48 89 c3
  4005b1:
                                               %rax,%rbx
                                        mov
                89 c7
  4005b4:
                                               %eax,%edi
                                        mov
  4005b6:
                e8 c2 ff ff ff
                                        callq 40057d <factorial>
                                               %eax,%edx
  4005bb:
                89 c2
                                        mov
```

0000000000400	57d <factorial>:</factorial>	
40057d:	53	push %rbx
40057e:	89 fb	mov %edi,%ebx
400580:	b8 00 00 00 00	mov \$0x0,%eax
400585:	85 ff	test %edi,%edi
400587:	74 12	je 40059b <factorial+0x1e></factorial+0x1e>
400589:	b0 01	mov \$0x1,%al
40058b:	83 ff 01	cmp \$0x1,%edi
40058e:	74 0b	je 40059b <factorial+0x1e></factorial+0x1e>
400590:	8d 7f ff	lea -0x1(%rdi),%edi
400593:	e8 e5 ff ff ff	callq 40057d <factorial></factorial>
400598:	0f af c3	imul %ebx,%eax
40059b:	5b	pop %rbx
40059c:	c3	retq

[(gdb) x/128bx \$rsp							
0x7ffffffffff0: 0x04	0x00						
0x7ffffffffff8: 0xbb	0x05	0x40	0x00	0x00	0x00	0x00	0x00

```
unsigned int factorial (unsigned int x)
  if (x==0)
    return 0;
  else
    if (x==1)
      return 1;
    else
      return x*factorial(x-1);
int main( int argc, const char* argv[] )
  int x;
  x=atoi(argv[1]);
  printf("%d %d\n", x, factorial(x));
  return 1;
```

```
0000000000400490 <main>:
  400490:
                48 83 ec 08
                                                 $0x8,%rsp
                                          sub
  400494:
                48 8b 7e 08
                                                 0x8(%rsi),%rdi
                                          mov
  400498:
                ba 0a 00 00 00
                                                 $0xa,%edx
                                          mov
  40049d:
                31 f6
                                                 %esi,%esi
                                          xor
  40049f:
                e8 dc ff ff ff
                                          callq
                                                 400480 <strtol@plt>
  4004a4:
                85 c0
                                          test
                                                 %eax,%eax
                74 49
                                                 4004f1 <main+0x61>
  4004a6:
                                          iе
                83 f8 01
  4004a8:
                                                 $0x1,%eax
                                          cmp
  4004ab:
                74 4b
                                          iе
                                                 4004f8 <main+0x68>
  4004ad:
                89 c1
                                                 %eax,%ecx
                                          mov
  4004af:
                ba 01 00 00 00
                                                 $0x1,%edx
                                          mov
  4004b4:
                eb 0f
                                                 4004c5 <main+0x35>
                                          jmp
  4004b6:
                66 2e 0f 1f 84 00 00
                                                 %cs:0x0(%rax,%rax,1)
                                          nopw
  4004bd:
                00 00 00
  4004c0:
                83 f9 01
                                                 $0x1,%ecx
                                          cmp
  4004c3:
                74 25
                                          jе
                                                 4004ea <main+0x5a>
  4004c5:
                0f af d1
                                          imul
                                                 %ecx,%edx
  4004c8:
                83 e9 01
                                                 $0x1,%ecx
                75 f3
  4004cb:
                                                 4004c0 <main+0x30>
                                          jne
  4004cd:
                31 c9
                                                 %ecx,%ecx
                                          xor
                0f af d1
  4004cf:
                                          imul
                                                 %ecx,%edx
  4004d2:
                89 c6
                                                 %eax,%esi
                                          mov
  4004d4:
                bf b0 06 40 00
                                                 $0x4006b0,%edi
                                          mov
  4004d9:
                31 c0
                                                 %eax,%eax
                                          xor
  4004db:
                e8 70 ff ff ff
                                          callq 400450 <printf@plt>
  4004e0:
                b8 01 00 00 00
                                                 $0x1,%eax
                                          mov
  4004e5:
                48 83 c4 08
                                                 $0x8,%rsp
                                          add
  4004e9:
                сЗ
                                          retq
  4004ea:
                b9 01 00 00 00
                                          mov
                                                 $0x1,%ecx
  4004ef:
                eb de
                                          jmp
                                                 4004cf <main+0x3f>
  4004f1:
                ba 01 00 00 00
                                          mov
                                                 $0x1,%edx
  4004f6:
                eb d5
                                                 4004cd <main+0x3d>
                                          jmp
  4004f8:
                ba 01 00 00 00
                                                 $0x1,%edx
                                          mov
  4004fd:
                b9 01 00 00 00
                                                 $0x1,%ecx
                                          mov
  400502:
                                                 4004cf <main+0x3f>
                eb cb
                                          jmp
```