bufbomb: file format elf32-i386

## Disassembly of section .init:

```
080486a8 <_init>:
                      push %ebp
80486a8:
          55
                     mov %esp,%ebp
80486a9
           89 e5
           83 ec 08
80486ab
                        sub $0x8,%esp
80486ae:
           e8 21 02 00 00
                        call 80488d4 <call_gmon_start>
           e8 a8 02 00 00
80486b3:
                         call 8048960 <frame_dummy>
80486b8:
           e8 73 0f 00 00
                          call 8049630 <__do_global_ctors_aux>
80486bd:
                      leave
80486be:
          сЗ
                      ret
Disassembly of section .plt:
080486c0 <sprintf@plt-0x10>:
                           pushl 0x804a0e4
          ff 35 e4 a0 04 08
80486c0:
                           jmp *0x804a0e8
80486c61
           ff 25 e8 a0 04 08
80486cc:
          00 00
                      add %al,(%eax)
080486d0 <sprintf@plt>:
          ff 25 ec a0 04 08 jmp *0x804a0ec
80486d0:
           68 00 00 00 00
                           push $0x0
80486d6:
80486db:
           e9 e0 ff ff ff
                      jmp 80486c0 <_init+0x18>
080486e0 <srand@plt>:
          80486e0:
                           push $0x8
80486e6:
80486eb:
          e9 d0 ff ff ff
                      jmp 80486c0 <_init+0x18>
080486f0 <mmap@plt>:
          80486f0:
                          push $0x10
          68 10 00 00 00
80486fb:
          e9 c0 ff ff ff
                     jmp 80486c0 <_init+0x18>
08048700 <random@plt>:
                          jmp *0x804a0f8
8048700: ff 25 f8 a0 04 08
           68 18 00 00 00
                          push $0x18
8048706
804870b:
          e9 b0 ff ff ff
                     jmp 80486c0 <_init+0x18>
08048710 <signal@plt>:
8048710: ff 25 fc a0 04 08 jmp *0x804a0fc
           68 20 00 00 00
8048716:
                           push $0x20
                      jmp 80486c0 <_init+0x18>
           e9 a0 ff ff ff
804871b:
08048720 <__gmon_start__@plt>:
          8048720
                           push $0x28
8048726
           68 28 00 00 00
           e9 90 ff ff ff
                     jmp 80486c0 <_init+0x18>
804872b:
08048730 <calloc@plt>:
          8048730:
8048736:
                      jmp 80486c0 <_init+0x18>
804873b:
           e9 80 ff ff ff
08048740 <system@plt>:
          ff 25 08 a1 04 08 jmp *0x804a108
8048740:
           68 38 00 00 00 push $0x38
8048746
804874b:
           e9 70 ff ff ff
                      jmp 80486c0 <_init+0x18>
08048750 <memset@plt>:
8048750:
          ff 25 0c a1 04 08 jmp *0x804a10c
8048756:
           68 40 00 00 00
                           push $0x40
804875b:
           e9 60 ff ff ff
                        jmp 80486c0 <_init+0x18>
08048760 < \_libc\_start\_main@plt>:
           ff 25 10 a1 04 08 jmp *0x804a110
8048760:
                           push $0x48
8048766
           68 48 00 00 00
           e9 50 ff ff ff
                        jmp 80486c0 <_init+0x18>
804876b:
08048770 <_IO_getc@plt>:
8048770:
           ff 25 14 a1 04 08
                           jmp *0x804a114
           68 50 00 00 00
                           push $0x50
8048776:
804877b:
           e9 40 ff ff ff
                        jmp 80486c0 <_init+0x18>
08048780 <__ctype_b_loc@plt>:
                          jmp *0x804a118
```

ff 25 18 a1 04 08

push \$0x58

68 58 00 00 00

8048780: 8048786:

```
804878b: e9 30 ff ff ff
                        jmp 80486c0 <_init+0x18>
08048790 <fclose@plt>:
            8048790:
8048796:
            68 60 00 00 00
                             push $0x60
804879b:
            e9 20 ff ff ff jmp 80486c0 <_init+0x18>
080487a0 <getopt@plt>:
           ff 25 20 a1 04 08 jmp *0x804a120
68 68 00 00 00 push $0x68
80487a0:
80487a6:
80487ab:
            e9 10 ff ff ff jmp 80486c0 <_init+0x18>
080487b0 <fopen@plt>:
          ff 25 24 a1 04 08 jmp *0x804a124
80487b0:
80487b6:
            68 70 00 00 00
                             push $0x70
            e9 00 ff ff ff jmp 80486c0 <_init+0x18>
80487bb:
080487c0 <alarm@plt>:
          ff 25 28 a1 04 08 jmp *0x804a128
80487c0
80487c6:
            68 78 00 00 00
                             push $0x78
80487cb:
          e9 f0 fe ff ff jmp 80486c0 <_init+0x18>
080487d0 <strcpy@plt>:
           ff 25 2c a1 04 08 jmp *0x804a12c
80487d0:
            68 80 00 00 00
                              push $0x80
80487d6:
80487db:
           e9 e0 fe ff ff
                          jmp 80486c0 <_init+0x18>
080487e0 <printf@plt>:
           ff 25 30 a1 04 08 jmp *0x804a130
80487e0:
80487e6
            68 88 00 00 00 push $0x88
80487eb:
           e9 d0 fe ff ff
                        jmp 80486c0 <_init+0x18>
080487f0 <srandom@plt>:
          ff 25 34 a1 04 08 jmp *0x804a134
80487f0:
                             push $0x90
80487f6:
           68 90 00 00 00
           e9 c0 fe ff ff jmp 80486c0 <_init+0x18>
80487fb:
08048800 <fwrite@plt>:
            ff 25 38 a1 04 08 jmp *0x804a138
8048800:
8048806
            68 98 00 00 00
                             push $0x98
804880b:
           e9 b0 fe ff ff jmp 80486c0 <_init+0x18>
08048810 <fprintf@plt>:
            ff 25 3c a1 04 08 jmp *0x804a13c
68 a0 00 00 00 push $0xa0
8048810:
8048816:
            e9 a0 fe ff ff jmp 80486c0 <_init+0x18>
804881b:
08048820 <remove@plt>:
8048820: ff 25 40 a1 04 08 jmp *0x804a140
8048826: 68 a8 00 00 0 push $0xa8
804882b:
            e9 90 fe ff ff
                        jmp 80486c0 <_init+0x18>
08048830 <cuserid@plt>:
            8048836:
804883b:
08048840 <fputc@plt>:
           ff 25 48 a1 04 08 jmp *0x804a148
68 b8 00 00 00 push $0x88
8048840:
8048846:
           e9 70 fe ff ff jmp 80486c0 <_init+0x18>
804884b:
08048850 <puts@plt>:
          ff 25 4c a1 04 08 jmp *0x804a14c
68 c0 00 00 00 push $0xc0
8048850:
804885b:
           e9 60 fe ff ff jmp 80486c0 <_init+0x18>
08048860 <rand@plt>:
8048860: ff 25 50 a1 04 08 jmp *0x804a150
8048866: 68 c8 00 00 push $0xe
804886b:
            e9 50 fe ff ff
                        jmp 80486c0 <_init+0x18>
08048870 <munmap@plt>:
            ff 25 54 a1 04 08 jmp *0x804a154
8048876:
            68 d0 00 00 00
                              push $0xd0
            e9 40 fe ff ff
                          imp 80486c0 < init+0x18>
804887b:
08048880 <tempnam@plt>:
            ff 25 58 a1 04 08 jmp *0x804a158
```

8048880:

```
8048886:
            68 d8 00 00 00
                              push $0xd8
804888b:
            e9 30 fe ff ff
                           jmp 80486c0 <_init+0x18>
08048890 <__strdup@plt>:
8048890:
            ff 25 5c a1 04 08
                              jmp *0x804a15c
8048896:
            68 e0 00 00 00
                              push $0xe0
                           jmp 80486c0 <_init+0x18>
804889h
            e9 20 fe ff ff
080488a0 <exit@plt>:
            ff 25 60 a1 04 08
                              jmp *0x804a160
80488a0:
80488a6:
            68 e8 00 00 00
                              push $0xe8
80488ab:
            e9 10 fe ff ff
                           jmp 80486c0 <_init+0x18>
Disassembly of section .text:
080488b0 <_start>:
80488b0:
                          xor %ebp,%ebp
           31 ed
80488b2:
                         pop %esi
            5e
80488h3:
            89 e1
                          mov
                               %esp,%ecx
            83 e4 f0
80488h5
                           and $0xffffff0,%esp
80488b8:
            50
                         push %eax
80488b9:
            54
                         push %esp
80488ba:
            52
                         push %edx
80488bb:
            68 b0 95 04 08
                              push $0x80495b0
80488c0:
            68 c0 95 04 08
                              push $0x80495c0
80488c5:
            51
                         push %ecx
80488c6:
            56
                         push %esi
80488c7:
            68 40 92 04 08
                              push $0x8049240
            e8 8f fe ff ff
80488cc:
                          call 8048760 <__libc_start_main@plt>
80488d1:
           f4
                        hlt
80488d2:
            90
                         nop
80488d3:
           90
                         nop
080488d4 <call_gmon_start>:
                         push %ebp
80488d4:
80488d5:
            89 e5
                          mov %esp,%ebp
                         push %ebx
80488d7:
            53
80488d8:
            83 ec 04
                           sub $0x4,%esp
80488db
            e8 00 00 00 00
                              call 80488e0 <call_gmon_start+0xc>
80488e0:
            5h
                         pop
                              %ebx
            81 c3 00 18 00 00
                               add $0x1800,%ebx
80488e1:
80488e7:
            8b 93 fc ff ff ff
                          mov 0xffffffc(%ebx),%edx
80488ed:
            85 d2
                          test %edx,%edx
80488ef:
           74 05
                          je 80488f6 <call_gmon_start+0x22>
80488f1:
           e8 2a fe ff ff
                          call 8048720 < _gmon_start __@plt>
80488f6:
           58
                         pop %eax
80488f7:
           5b
                         pop %ebx
80488f8:
           с9
                        leave
80488f91
           c3
                        ret
80488fa
           90
                        nop
           90
80488fb:
                        nop
80488fc:
           90
                        nop
80488fd:
           90
                        nop
80488fe:
           90
                        nop
80488ff:
                        nop
08048900 <__do_global_dtors_aux>:
                         push %ebp
8048900:
           55
8048901:
            89 e5
                          mov %esp,%ebp
                         push %ebx
8048903
            53
            83 ec 04
8048904:
                           sub $0x4,%esp
            80 3d b4 a1 04 08 00 cmpb $0x0,0x804a1b4
8048907:
804890e:
            75 3f
                          jne 804894f <__do_global_dtors_aux+0x4f>
            b8 0c a0 04 08
8048910:
                            mov $0x804a00c,%eax
8048915:
            2d 08 a0 04 08
                              sub $0x804a008,%eax
804891a:
            c1 f8 02
                           sar $0x2,%eax
804891d:
            8d 58 ff
                          lea 0xfffffff(%eax),%ebx
8048920:
            a1 b0 a1 04 08 mov 0x804a1b0,%eax
                          cmp %eax,%ebx
8048925:
            39 c3
8048927
                          jbe 8048948 <__do_global_dtors_aux+0x48>
            76 1f
8048929:
            8d b4 26 00 00 00 00 lea 0x0(%esi),%esi
8048930:
            83 c0 01
                           add $0x1,%eax
            a3 b0 a1 04 08
8048933:
                              mov %eax,0x804a1b0
8048938:
            ff 14 85 08 a0 04 08 call *0x804a008(,%eax,4)
804893f:
            a1 b0 a1 04 08
                            mov 0x804a1b0,%eax
8048944:
                          cmp %eax,%ebx
            39 c3
8048946:
            77 e8
                           ja 8048930 <__do_global_dtors_aux+0x30>
8048948:
            c6 05 b4 a1 04 08 01 movb $0x1,0x804a1b4
804894f:
                          add $0x4,%esp
           83 c4 04
8048952:
                         pop %ebx
           5b
```

```
8048953:
                         pop %ebp
8048954:
                        ret
            8d 74 26 00
                            lea 0x0(%esi),%esi
8048955:
8048959:
            8d bc 27 00 00 00 00 lea 0x0(%edi),%edi
08048960 <frame_dummy>:
                        push %ebp
8048960
           55
8048961
           89 e5
                          mov %esp.%ebp
8048963
           83 ec 08
                           sub $0x8,%esp
            a1 10 a0 04 08
8048966:
                             mov 0x804a010,%eax
804896b:
            85 c0
                         test %eax,%eax
                          je 8048981 <frame_dummy+0x21>
804896d:
            74 12
804896f:
           00 00 00 8d
                             mov $0x0,%eax
8048974:
           85 c0
                         test %eax,%eax
8048976:
            74 09
                          je 8048981 <frame dummy+0x21>
8048978:
            c7 04 24 10 a0 04 08 movl $0x804a010,(%esp)
           ff d0
                        call *%eax
804897f
8048981
           с9
                        leave
8048982
           сЗ
                        ret
8048983:
           90
                        nop
8048984:
           90
                         nop
8048985:
           90
                         nop
8048986:
                         nop
8048987:
           90
                         nop
8048988:
           90
                        nop
8048989:
           90
                        gon
804898a:
           90
                        gon
804898b
           90
                        nop
           90
804898c:
                        nop
804898d:
           90
                         nop
804898e:
           90
                        nop
804898f:
           90
08048990 <save_char>:
8048990:
           8b 0d e4 a1 04 08
                              mov 0x804a1e4,%ecx
                        push %ebp
8048996:
           55
8048997:
           89 e5
                         mov %esp,%ebp
                        push %ebx
8048999
           53
804899a:
           89 c3
                         mov %eax,%ebx
           81 f9 ff 03 00 00 cmp $0x3ff,%ecx
804899c:
80489a2:
            7f 37
                         jg 80489db <save_char+0x4b>
80489a4:
            c0 f8 04
                          sar $0x4,%al
80489a7:
            83 e0 0f
                          and $0xf,%eax
80489aa:
            0f b6 80 4c 9c 04 08 movzbl 0x8049c4c(%eax),%eax
80489b1:
            8d 14 49
                         lea (%ecx,%ecx,2),%edx
            c6 82 02 a2 04 08 20 movb $0x20,0x804a202(%edx)
80489b4:
            88 82 00 a2 04 08 mov %al,0x804a200(%edx)
80489bb:
80489c1
           89 d8
                         mov %ebx %eax
80489c3:
           83 e0 0f
                          and $0xf.%eax
            0f b6 80 4c 9c 04 08 movzbl 0x8049c4c(%eax),%eax
80489c6:
80489cd:
            88 82 01 a2 04 08 mov %al,0x804a201(%edx)
80489d3:
            8d 41 01
                          lea 0x1(%ecx),%eax
80489d6:
            a3 e4 a1 04 08
                           mov
                                   %eax,0x804a1e4
80489db:
           5b
                        pop %ebx
                        pop %ebp
80489dc:
           5d
80489dd:
           с3
                        ret
                          xchg %ax,%ax
80489de:
           66 90
080489e0 <entry_check>:
80489e0:
           55
                         push %ebp
80489e1:
           89 e5
                         mov %esp,%ebp
80489e3:
            8b 45 08
                           mov 0x8(%ebp),%eax
                        pop %ebp
3 mov %eax,0x804a16c
80489e6:
80489e7:
           a3 6c a1 04 08
80489ec:
           сЗ
                        ret
           8d 76 00
80489ed:
                           lea 0x0(%esi),%esi
080489f0 <illegalhandler>:
80489f0:
                       push %ebp
80489f1:
           89 e5
                        mov %esp,%ebp
80489f3:
           83 ec 08
                         sub $0x8,%esp
80489f6:
           c7 04 24 80 96 04 08 movl $0x8049680,(%esp)
80489fd:
           e8 4e fe ff ff call 8048850 <puts@plt>
8048a02:
            c7 04 24 18 9a 04 08 movl $0x8049a18,(%esp)
8048a09:
            e8 42 fe ff ff
                         call 8048850 <puts@plt>
8048a0e:
            c7 04 24 00 00 00 00 movl $0x0,(%esp)
8048a15:
                          call 80488a0 <exit@plt>
            e8 86 fe ff ff
            8d b6 00 00 00 00 lea 0x0(%esi),%esi
8048a1a:
```

```
08048a20 <alarmhandler>:
8048a20:
                         push %ebp
                          mov %esp,%ebp
8048a21:
            89 e5
8048a23:
            83 ec 08
                            sub $0x8,%esp
8048a26:
            a1 70 a1 04 08
                              mov 0x804a170,%eax
            c7 04 24 ac 96 04 08 movl $0x80496ac,(%esp)
8048a2b:
8048a321
            89 44 24 04
                        mov %eax,0x4(%esp)
                           call 80487e0 <printf@plt>
            e8 a5 fd ff ff
8048a361
8048a3b:
            c7 04 24 18 9a 04 08 movl $0x8049a18,(%esp)
8048a42:
            e8 09 fe ff ff
                          call 8048850 <puts@plt>
8048a47:
            c7 04 24 00 00 00 00 movl $0x0,(%esp)
8048a4e:
            e8 4d fe ff ff
                           call 80488a0 <exit@plt>
8048a53:
            8d b6 00 00 00 00
                               lea 0x0(%esi),%esi
            8d bc 27 00 00 00 00 lea 0x0(%edi),%edi
8048a59:
08048a60 <seghandler>:
                         push %ebp
8048a60
            55
8048a61
            89 e5
                          mov %esp,%ebp
8048a63
            83 ec 08
                            sub $0x8,%esp
8048a66:
            c7 04 24 e0 96 04 08 movl $0x80496e0,(%esp)
8048a6d:
            e8 de fd ff ff
                           call 8048850 <puts@plt>
8048a72:
            c7 04 24 18 9a 04 08 movl $0x8049a18,(%esp)
8048a79:
            e8 d2 fd ff ff
                           call 8048850 <puts@plt>
            c7 04 24 00 00 00 00
8048a7e:
                                movl $0x0,(%esp)
8048a85:
            e8 16 fe ff ff
                           call 80488a0 <exit@plt>
            8d b6 00 00 00 00
8048a8a:
                                lea 0x0(%esi), %esi
08048a90 <bushandler>:
8048a90:
            55
                          push %ebp
8048a91
            89 e5
                          mov %esp,%ebp
8048a93:
            83 ec 08
                            sub $0x8,%esp
8048a96:
            c7 04 24 08 97 04 08 movl $0x8049708,(%esp)
8048a9d:
            e8 ae fd ff ff
                           call 8048850 <puts@plt>
            c7 04 24 18 9a 04 08 movl $0x8049a18,(%esp)
8048aa2:
8048aa9:
            e8 a2 fd ff ff
                           call 8048850 <puts@plt>
            c7 04 24 00 00 00 00 movl $0x0,(%esp)
8048aae:
8048ab5:
            e8 e6 fd ff ff
                           call 80488a0 <exit@plt>
            8d b6 00 00 00 00 lea 0x0(%esi),%esi
8048aba:
08048ac0 <usage>:
8048ac0:
                         push %ebp
8048ac1:
            89 e5
                          mov %esp,%ebp
8048ac3:
            83 ec 08
                           sub $0x8,%esp
8048ac6:
            89 44 24 04
                             mov %eax,0x4(%esp)
8048aca:
            c7 04 24 28 97 04 08 movl $0x8049728,(%esp)
            e8 0a fd ff ff
                           call 80487e0 <printf@plt>
8048ad1:
            c7 04 24 2e 9a 04 08 movl $0x8049a2e,(%esp)
8048ad6:
                           call 8048850 <puts@plt>
8048add:
            e8 6e fd ff ff
8048ae2:
            c7 04 24 4c 9a 04 08 movl $0x8049a4c,(%esp)
            e8 62 fd ff ff
                         call 8048850 <puts@plt>
8048ae91
8048aee:
            c7 04 24 4c 97 04 08 movl $0x804974c,(%esp)
8048af5:
            e8 56 fd ff ff
                         call 8048850 <puts@plt>
8048afa:
            c7 04 24 74 97 04 08
                               movl $0x8049774,(%esp)
8048b01:
            e8 4a fd ff ff
                           call 8048850 <puts@plt>
            c7 04 24 00 00 00 00
8048b06:
                                movl $0x0,(%esp)
8048b0d:
            e8 8e fd ff ff
                           call 80488a0 <exit@plt>
            8d b4 26 00 00 00 00
                                      0x0(%esi),%esi
8048b12:
                                 lea
8048b19:
            8d bc 27 00 00 00 00 lea
                                      0x0(%edi),%edi
08048b20 <validate>:
                         push %ebp
8048b20:
8048b21:
            89 e5
                           mov %esp,%ebp
8048b23:
            81 ec 48 01 00 00 sub $0x148,%esp
8048b29:
            8b 0d d4 a1 04 08
                                mov 0x804a1d4,%ecx
8048b2f:
           89 5d f4
                          mov %ebx,0xffffff4(%ebp)
8048b32:
            8b 5d 08
                           mov 0x8(%ebp),%ebx
8048b35:
                                 %esi,0xffffff8(%ebp)
            89 75 f8
                           mov
                           mov %edi,0xffffffc(%ebp)
8048b38:
            89 7d fc
8048h3h1
            85 c9
                          test %ecx.%ecx
                               je 8048d1b <validate+0x1fb>
            0f 84 d8 01 00 00
8048b3d:
8048b43:
            83 fb 04
                           cmp $0x4,%ebx
8048b46:
            77 58
                           ja 8048ba0 <validate+0x80>
8048b48:
            3b 1d 6c a1 04 08
                                cmp 0x804a16c,%ebx
8048b4e:
                               8048b70 <validate+0x50>
            74 20
                           je
8048b50:
            c7 04 24 ec 97 04 08 movl $0x80497ec,(%esp)
8048b57:
            e8 f4 fc ff ff
                           call 8048850 <puts@plt>
8048b5c:
                            lea 0x0(%esi),%esi
            8d 74 26 00
                                 0xfffffff4(%ebp),%ebx
8048b60:
            8b 5d f4
                           mov
8048b63:
                                 0xffffff8(%ebp),%esi
            8b 75 f8
                           mov
```

```
mov 0xffffffc(%ebp),%edi
mov %ebp,%esp
8048b66:
           8b 7d fc
8048b69:
            89 ec
8048b6b:
                          pop %ebp
8048b6c:
           сЗ
                         ret
8048b6d:
            8d 76 00
                            lea 0x0(%esi),%esi
            8b 04 9d 74 a1 04 08 mov 0x804a174(,%ebx,4),%eax
8048b70:
            c7 05 dc a1 04 08 01 movl $0x1,0x804a1dc
8048b77
8048h7e
            00 00 00
                          sub $0x1,%eax
test %eax,%eax
8048b81
            83 e8 01
8048b84:
            85 c0
8048b86:
            89 04 9d 74 a1 04 08 mov %eax,0x804a174(,%ebx,4)
8048b8d:
            7e 21
                           jle 8048bb0 <validate+0x90>
8048b8f:
            c7 04 24 63 9a 04 08 movl $0x8049a63,(%esp)
                          call 8048850 <puts@plt>
8048b96:
            e8 b5 fc ff ff
                           jmp 8048b60 <validate+0x40>
8048b9b:
            eb c3
8048b9d:
            8d 76 00
                            lea 0x0(%esi),%esi
            c7 04 24 c4 97 04 08 movl $0x80497c4,(%esp)
8048ha0:
            e8 a4 fc ff ff call 8048850 <puts@plt>
8048ba71
                           jmp 8048b60 <validate+0x40>
8048bac:
            eh h2
8048bae:
            66 90
                           xchg %ax,%ax
            8b 15 d8 a1 04 08 mov 0x804a1d8,%edx
8048bb0:
8048bb6:
            85 d2
                          test %edx,%edx
8048bb8:
            0f 85 7f 01 00 00 jne 8048d3d <validate+0x21d>
            a1 68 a1 04 08
                              mov 0x804a168,%eax
8048bbe:
8048bc3:
            85 c0
                          test %eax,%eax
            0f 84 61 01 00 00 je 8048d2c <validate+0x20c>
8048bc5:
            c7 44 24 04 74 9a 04 movl $0x8049a74,0x4(%esp)
8048bcb:
8048bd2
            08
8048bd3:
            c7 04 24 00 00 00 00 movl $0x0,(%esp)
            e8 a1 fc ff ff call 8048880 <tempnam@plt>
8048bda:
8048bdf:
            c7 44 24 04 7b 9a 04 movl $0x8049a7b,0x4(%esp)
8048be6:
            89 85 e0 fe ff ff mov %eax,0xfffffee0(%ebp)
89 04 24 mov %eax,(%esp)
8048be7:
8048bed:
                           call 80487b0 <fopen@plt>
8048bf0:
           e8 bb fb ff ff
8048bf5:
                          test %eax,%eax
           85 c0
8048bf7:
           89 c6
                          mov %eax,%esi
           0f 84 76 01 00 00 je 8048d75 <validate+0x255>
89 44 24 0c mov %eax,0xc(%esp)
8048bf91
           89 44 24 0c
8048bff
           c7 44 24 08 1b 00 00 movl $0x1b,0x8(%esp)
8048c03:
8048c0a:
8048c0b:
            c7 44 24 04 01 00 00 movl $0x1,0x4(%esp)
8048c12:
8048c13:
            c7 04 24 7d 9a 04 08 movl $0x8049a7d,(%esp)
                          call 8048800 <fwrite@plt>
8048c1a:
           e8 e1 fb ff ff
8048c1f:
           89 74 24 04
                             mov %esi,0x4(%esp)
8048c23:
           c7 04 24 0a 00 00 00 movl $0xa,(%esp)
8048c2a
            e8 11 fc ff ff
                          call 8048840 <fputc@plt>
           c7 04 24 00 00 00 00 movl $0x0,(%esp)
8048c2f
                        call 8048830 <cuserid@plt>
            e8 f5 fb ff ff
8048c36:
8048c3b:
           85 c0
                           test %eax,%eax
            0f 84 19 01 00 00 je 8048d5c <validate+0x23c>
8048c3d:
                        lea 0xffffffeb(%ebp),%edi
mov %eax,0x4(%esp)
8048c43:
            8d 7d eb
8048c46:
            89 44 24 04
                            mov %edi,(%esp)
8048c4a:
            89 3c 24
                            call 80487d0 <strcpy@plt>
8048c4d:
            e8 7e fb ff ff
8048c52:
                            mov %edi,0x8(%esp)
            89 7c 24 08
            c7 44 24 04 99 9a 04 movl $0x8049a99,0x4(%esp)
8048c56:
8048c5d1
            08
                            mov %esi,(%esp)
8048c5e:
           89 34 24
            e8 aa fb ff ff
                          call 8048810 <printf@plt>
8048c61:
8048c66:
            a1 d0 a1 04 08 mov 0x804a1d0,%eax
           89 5c 24 10 mov %ebx,0x10(%esp)
8d 9d eb fe ff ff lea 0xfffffeeb(%ebp),%ebx
8048c6b:
8048c6f:
8048c75:
           c7 44 24 1c 00 00 00 movl $0x0,0x1c(%esp)
8048c7c:
           00
8048c7d:
            c7 44 24 18 00 a2 04 movl $0x804a200,0x18(%esp)
8048c84:
            08
                             mov %eax,0x14(%esp)
8048c85
            89 44 24 14
8048c89:
            a1 d4 a1 04 08
                              mov 0x804a1d4,%eax
8048c8e:
            c7 44 24 08 0a 7d 00 movl $0x7d0a,0x8(%esp)
8048c95:
            00
8048c96:
            c7 44 24 04 5c 98 04 movl $0x804985c,0x4(%esp)
8048c9d:
            80
8048c9e:
            89 34 24
                            mov %esi,(%esp)
8048ca1:
            89 44 24 0c
                            mov %eax,0xc(%esp)
            e8 66 fb ff ff
                            call 8048810 <printf@plt>
8048ca5:
                            mov %esi,(%esp)
8048caa:
            89 34 24
8048cad:
            e8 de fa ff ff
                            call 8048790 <fclose@plt>
```

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8048cb2:
            8b 85 e0 fe ff ff mov 0xfffffee0(%ebp),%eax
8048cb8:
            c7 44 24 14 a7 9a 04 movl $0x8049aa7,0x14(%esp)
8048cbf:
8048cc0:
            c7 44 24 10 b5 9a 04 movl $0x8049ab5,0x10(%esp)
8048cc7:
8048cc8:
            c7 44 24 0c bc 9a 04 movl $0x8049abc,0xc(%esp)
8048ccf
           08
            89 44 24 08
                              mov %eax,0x8(%esp)
8048cd0:
8048cd4:
            c7 44 24 04 d3 9a 04 movl $0x8049ad3,0x4(%esp)
8048cdb:
            08
8048cdc:
            89 1c 24
                            mov %ebx,(%esp)
8048cdf:
            e8 ec f9 ff ff
                           call 80486d0 <sprintf@plt>
                            mov %ebx,(%esp)
8048ce4:
            89 1c 24
            e8 54 fa ff ff
                            call 8048740 <system@plt>
8048ce7:
8048cec:
            85 c0
                           test %eax,%eax
8048cee:
                                8048d4e <validate+0x22e>
            75 5e
                           ine
            c7 04 24 e6 9a 04 08
                                movl $0x8049ae6,(%esp)
8048cf0
8048cf7:
            e8 54 fb ff ff
                           call 8048850 <puts@plt>
8048cfc
            c7 04 24 7c 98 04 08
                                movl $0x804987c,(%esp)
8048d03:
            e8 48 fb ff ff
                            call 8048850 <puts@plt>
            8b 85 e0 fe ff ff
8048d08:
                             mov 0xfffffee0(%ebp),%eax
8048d0e:
            89 04 24
                             mov %eax,(%esp)
8048d11:
            e8 0a fb ff ff
                            call 8048820 <remove@plt>
8048d16:
            e9 45 fe ff ff
                                  8048b60 <validate+0x40>
                            jmp
8048d1b:
            c7 04 24 98 97 04 08
                                  movl $0x8049798,(%esp)
                            call 8048850 <puts@plt>
8048d22:
            e8 29 fb ff ff
8048d27:
                                  8048b60 <validate+0x40>
            e9 34 fe ff ff
                            ami
                                 movl $0x80498ec,(%esp)
8048d2c
            c7 04 24 ec 98 04 08
                            call 8048850 <puts@plt>
8048d33:
            e8 18 fb ff ff
8048d38:
            e9 23 fe ff ff
                                  8048b60 <validate+0x40>
8048d3d:
            c7 04 24 6e 9a 04 08
                                  movl $0x8049a6e,(%esp)
8048d44:
            e8 07 fb ff ff
                            call 8048850 <puts@plt>
8048d49:
            e9 12 fe ff ff
                                  8048b60 <validate+0x40>
                            jmp
            c7 04 24 ac 98 04 08
8048d4e:
                                 movl $0x80498ac,(%esp)
                           call 8048850 <puts@plt>
8048d55:
            e8 f6 fa ff ff
                           jmp 8048d08 <validate+0x1e8>
8048d5a:
            eb ac
8048d5c:
            8d 7d eb
                             lea 0xfffffeb(%ebp),%edi
8048d5f
            c7 45 eb 6e 6f 62 6f movl $0x6f626f6e,0xffffffeb(%ebp)
                              movw $0x7964,0xffffffef(%ebp)
8048d66<sup>-</sup>
            66 c7 45 ef 64 79
            c6 45 f1 00
8048d6c
                            movb $0x0,0xffffff1(%ebp)
                            jmp 8048c52 <validate+0x132>
8048d70:
            e9 dd fe ff ff
8048d75:
             c7 04 24 28 98 04 08
                                  movl $0x8049828,(%esp)
8048d7c:
            e8 5f fa ff ff
                           call 80487e0 <printf@plt>
8048d81:
            c7 04 24 01 00 00 00 movl $0x1,(%esp)
                            call 80488a0 <exit@plt>
8048d88:
            e8 13 fb ff ff
8048d8d:
                             lea 0x0(%esi),%esi
            8d 76 00
08048d90 <bang>:
                          push %ebp
8048d90·
            55
8048d91:
            89 e5
                           mov %esp,%ebp
8048d93:
            83 ec 08
                            sub $0x8,%esp
8048d96:
            c7 04 24 02 00 00 00 movl $0x2,(%esp)
8048d9d:
            e8 3e fc ff ff
                           call 80489e0 <entry_check>
8048da2:
            a1 e0 a1 04 08
                              mov 0x804a1e0,%eax
            3b 05 d0 a1 04 08
8048da7:
                                cmp 0x804a1d0,%eax
                           je 8048dd0 <bang+0x40>
8048dad:
            74 21
            89 44 24 04
                             mov %eax,0x4(%esp)
8048daf:
            c7 04 24 f0 9a 04 08 movl $0x8049af0,(%esp)
8048db3:
            e8 21 fa ff ff
                            call 80487e0 <printf@plt>
8048dba:
            c7 04 24 00 00 00 00 movl $0x0,(%esp)
8048dbf:
8048dc6:
            e8 d5 fa ff ff
                            call 80488a0 <exit@plt>
8048dcb:
            90
                          nop
8048dcc:
            8d 74 26 00
                              lea 0x0(%esi),%esi
8048dd0:
            89 44 24 04
                              mov %eax,0x4(%esp)
8048dd4:
            c7 04 24 38 99 04 08 movl $0x8049938,(%esp)
8048ddb:
            e8 00 fa ff ff
                            call 80487e0 <printf@plt>
8048de0:
            c7 04 24 02 00 00 00 movl $0x2,(%esp)
                            call 8048b20 <validate>
8048de7:
            e8 34 fd ff ff
                           jmp 8048dbf <bang+0x2f>
8048dec:
            eb d1
8048dee:
            66 90
                           xchg %ax,%ax
08048df0 <fizz>:
8048df0:
                          push %ebp
8048df1:
                           mov %esp,%ebp
            89 e5
8048df3:
            53
                         push %ebx
8048df4:
            83 ec 14
                            sub $0x14,%esp
                            mov 0x8(%ebp),%ebx
8048df7:
            8b 5d 08
            c7 04 24 01 00 00 00 movl $0x1,(%esp)
8048dfa:
8048e01:
                            call 80489e0 <entry_check>
            e8 da fb ff ff
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8048e06:
            3b 1d d0 a1 04 08 cmp 0x804a1d0,%ebx
8048e0c:
            74 22
                           je 8048e30 <fizz+0x40>
8048e0e:
            89 5c 24 04
                             mov %ebx,0x4(%esp)
8048e12:
            c7 04 24 60 99 04 08 movl $0x8049960,(%esp)
8048e19:
            e8 c2 f9 ff ff
                           call 80487e0 <printf@plt>
            c7 04 24 00 00 00 00 movl $0x0,(%esp)
8048e1e:
8048e25
            e8 76 fa ff ff
                           call 80488a0 <exit@plt>
            8d b6 00 00 00 00 lea 0x0(%esi),%esi
8048e2a
8048e30:
            89 5c 24 04
                            mov %ebx,0x4(%esp)
            c7 04 24 0e 9b 04 08 movl $0x8049b0e,(%esp)
8048e34:
8048e3b:
            e8 a0 f9 ff ff
                           call 80487e0 <printf@plt>
8048e40:
            c7 04 24 01 00 00 00 movl $0x1,(%esp)
            e8 d4 fc ff ff
8048e47:
                           call 8048b20 <validate>
                           jmp 8048e1e <fizz+0x2e>
8048e4c:
            eb d0
8048e4e:
            66 90
                           xchq %ax,%ax
08048e50 <smoke>:
8048e50:
                          push %ebp
            55
8048e51:
            89 e5
                           mov
                                 %esp.%ebp
8048e53:
            83 ec 08
                            sub $0x8,%esp
8048e56:
            c7 04 24 00 00 00 00 movl $0x0,(%esp)
8048e5d:
            e8 7e fb ff ff
                           call
                                80489e0 <entry_check>
8048e62:
            c7 04 24 2c 9b 04 08
                                movl $0x8049b2c,(%esp)
            e8 e2 f9 ff ff
                           call 8048850 <puts@plt>
8048e69:
8048e6e:
            c7 04 24 00 00 00 00
                                 movl $0x0,(%esp)
8048e75:
            e8 a6 fc ff ff
                           call
                                8048b20 <validate>
            c7 04 24 00 00 00 00
                                movl $0x0.(%esp)
8048e7a:
                            call 80488a0 <exit@plt>
            e8 1a fa ff ff
8048e81:
                                0x0(%esi),%esi
8048e861
            8d 76 00
                            lea
            8d bc 27 00 00 00 00 lea 0x0(%edi),%edi
8048e89:
08048e90 <Gets>:
8048e90:
                          push %ebp
                          mov %esp,%ebp
8048e91:
            89 e5
8048e93:
            57
                          push %edi
8048e94:
                          push %esi
            56
                          push %ebx
8048e95:
            53
8048e96
            83 ec 0c
                           sub $0xc,%esp
            8b 1d cc a1 04 08
                               mov 0x804a1cc,%ebx
8048e99°
            c7 05 e4 a1 04 08 00 movl $0x0,0x804a1e4
8048e9f:
8048ea6:
            00 00 00
8048ea9:
            8b 75 08
                            mov 0x8(%ebp),%esi
8048eac:
            85 db
                           test %ebx,%ebx
8048eae:
                           je 8048f22 <Gets+0x92>
            bf 01 00 00 00
8048eb0:
                              mov $0x1,%edi
8048eb5:
            c7 45 f0 00 00 00 00 movl $0x0,0xfffffff0(%ebp)
8048ebc:
            8d 74 26 00
                             lea 0x0(%esi),%esi
8048ec0:
            a1 c0 a1 04 08
                              mov 0x804a1c0,%eax
                            mov %eax,(%esp)
8048ec5:
            89 04 24
            e8 a3 f8 ff ff
                            call 8048770 <_IO_getc@plt>
8048ec81
8048ecd:
            83 f8 ff
                          cmp $0xfffffff,%eax
8048ed0:
            89 c3
                           mov %eax,%ebx
8048ed2:
            74 60
                           je 8048f34 <Gets+0xa4>
8048ed4:
            83 f8 0a
                           cmp $0xa,%eax
8048ed7:
            74 5b
                               8048f34 <Gets+0xa4>
                           ie
8048ed9:
            e8 a2 f8 ff ff
                            call 8048780 <__ctype_b_loc@plt>
                           mov (%eax),%eax
8048ede:
            8b 00
                              testb $0x10,0x1(%eax,%ebx,2)
8048ee0:
            f6 44 58 01 10
8048ee51
            74 d9
                           je 8048ec0 <Gets+0x30>
            8d 43 d0
8048ee7:
                            lea 0xfffffd0(%ebx),%eax
8048eea:
            83 f8 09
                           cmp $0x9,%eax
8048eed:
            89 c2
                           mov %eax,%edx
8048eef:
            76 Of
                          jbe 8048f00 <Gets+0x70>
8048ef1:
           8d 43 bf
                           lea 0xfffffbf(%ebx),%eax
8048ef4:
           83 f8 05
                           cmp $0x5,%eax
8048ef7:
           8d 53 c9
                           lea 0xfffffc9(%ebx),%edx
8048efa:
           76 04
                           jbe 8048f00 <Gets+0x70>
8048efc:
           8d 53 a9
                           lea 0xffffffa9(%ebx),%edx
8048eff
           90
                        nop
8048f00:
           85 ff
                         test %edi.%edi
8048f02:
           74 4c
                              8048f50 <Gets+0xc0>
8048f04:
           31 ff
                         xor %edi,%edi
8048f06:
           89 55 f0
                           mov %edx,0xffffff0(%ebp)
8048f09:
                           jmp 8048ec0 <Gets+0x30>
           eb b5
8048f0b:
           90
                         nop
8048f0c:
           8d 74 26 00
                             lea 0x0(%esi),%esi
8048f10:
           83 f8 0a
                           cmp $0xa,%eax
                          je 8048f34 <Gets+0xa4>
8048f13:
           74 1f
                          mov %al,(%esi)
8048f15:
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8048f17:
           Of be c0
                           movsbl %al,%eax
8048f1a:
            83 c6 01
                            add $0x1,%esi
8048f1d:
            e8 6e fa ff ff
                           call 8048990 <save_char>
8048f22:
            a1 c0 a1 04 08
                              mov 0x804a1c0,%eax
8048f27:
            89 04 24
                            mov %eax,(%esp)
                           call 8048770 < IO_getc@plt>
8048f2a:
           e8 41 f8 ff ff
                         cmp $0xffffffff,%eax
8048f2f:
           83 f8 ff
                          jne 8048f10 <Gets+0x80>
8048f32·
           75 dc
8048f34·
            c6 06 00
                           movb $0x0,(%esi)
            a1 e4 a1 04 08
                              mov 0x804a1e4,%eax
8048f37:
8048f3c:
            c6 84 40 00 a2 04 08 movb $0x0,0x804a200(%eax,%eax,2)
8048f43:
            00
8048f44:
            8b 45 08
                            mov 0x8(%ebp),%eax
8048f47:
                           add $0xc, %esp
            83 c4 0c
8048f4a:
           5b
                         pop %ebx
8048f4b:
           5e
                              %esi
                         gog
           5f
8048f4c
                             %edi
                        gog
8048f4d
           5d
                         pop
                              %ebp
8048f4e
           c3
                         ret
8048f4f:
           90
                        nop
                           mov 0xffffff0(%ebp),%eax
8048f50:
           8b 45 f0
8048f53:
            bf 01 00 00 00
                              mov $0x1,%edi
8048f58:
            c1 e0 04
                            shl $0x4,%eax
8048f5b:
            8d 04 02
                            lea (%edx,%eax,1),%eax
8048f5e:
            88 06
                           mov
                                 %al,(%esi)
8048f60:
            Of be c0
                           movsbl %al,%eax
8048f63:
            83 c6 01
                           add $0x1.%esi
            e8 25 fa ff ff
8048f66:
                           call 8048990 <save_char>
            e9 50 ff ff ff
                           jmp 8048ec0 <Gets+0x30>
8048f6b:
08048f70 <getbufn>:
8048f70:
                         push %ebp
8048f71:
            89 e5
                          mov %esp,%ebp
8048f73:
            81 ec 08 02 00 00 sub $0x208,%esp
                           lea 0xfffffe00(%ebp),%eax
8048f79:
            8d 85 00 fe ff ff
8048f7f:
           89 04 24
                           mov %eax,(%esp)
           e8 09 ff ff ff
8048f82:
                           call 8048e90 <Gets>
8048f87·
            b8 01 00 00 00
                           mov $0x1,%eax
8048f8c
                         leave
           c9
8048f8d
           c3
                         ret
8048f8e:
           66 90
                          xchg %ax,%ax
08048f90 <testn>:
8048f90:
                         push %ebp
                          mov %esp,%ebp
8048f91:
            89 e5
8048f93:
            83 ec 18
                            sub $0x18,%esp
8048f96:
            c7 45 fc ef be ad de movl $0xdeadbeef,0xfffffffc(%ebp)
            c7 04 24 04 00 00 00 movl $0x4,(%esp)
8048f9d
8048fa4:
            e8 37 fa ff ff
                           call 80489e0 <entry_check>
8048fa91
            e8 c2 ff ff ff
                           call 8048f70 <getbufn>
8048fae:
            89 c2
                          mov %eax,%edx
8048fb0:
            8b 45 fc
                           mov 0xffffffc(%ebp),%eax
8048fb3:
            3d ef be ad de
                           cmp $0xdeadbeef,%eax
8048fb8:
                           je 8048fc8 <testn+0x38>
8048fba:
            c7 04 24 80 99 04 08 movl $0x8049980,(%esp)
                         call 8048850 <puts@plt>
8048fc1:
            e8 8a f8 ff ff
8048fc6:
                         leave
           с9
8048fc7:
           с3
                        ret
            3b 15 d0 a1 04 08
8048fc81
                               cmp 0x804a1d0,%edx
                          je 8048fe2 <testn+0x52>
8048fce:
            74 12
            89 54 24 04
8048fd0:
                             mov %edx,0x4(%esp)
8048fd4:
            c7 04 24 47 9b 04 08 movl $0x8049b47,(%esp)
8048fdb:
            e8 00 f8 ff ff
                         call 80487e0 <printf@plt>
8048fe0:
                         leave
8048fe1:
                         ret
8048fe2:
            89 54 24 04
                             mov %edx,0x4(%esp)
8048fe6:
            c7 04 24 ac 99 04 08 movl $0x80499ac,(%esp)
            e8 ee f7 ff ff
                           call 80487e0 <printf@plt>
8048fed:
8048ff2·
           c7 04 24 04 00 00 00 movl $0x4,(%esp)
8048ff9:
           e8 22 fb ff ff
                           call 8048b20 <validate>
8048ffe:
          с9
                        leave
8048fff:
          сЗ
                       ret
08049000 <getbuf>:
8049000:
            55
                          push %ebp
8049001:
            89 e5
                           mov %esp,%ebp
8049003:
            83 ec 18
                            sub $0x18,%esp
            8d 45 f4
                            lea 0xfffffff4(%ebp),%eax
8049006:
8049009:
                            mov %eax,(%esp)
            89 04 24
```

```
804900c:
            e8 7f fe ff ff
                          call 8048e90 <Gets>
8049011:
            b8 01 00 00 00
                             mov $0x1,%eax
8049016:
8049017:
            сЗ
                         ret
8049018:
                         gon
            8d b4 26 00 00 00 00 lea 0x0(%esi),%esi
8049019:
08049020 <test>:
8049020
                         push %ebp
            89 e5
                          mov %esp,%ebp
8049021:
8049023:
            83 ec 18
                           sub $0x18,%esp
8049026:
            c7 45 fc ef be ad de movl $0xdeadbeef,0xfffffffc(%ebp)
804902d:
            c7 04 24 03 00 00 00 movl $0x3,(%esp)
                           call 80489e0 <entry_check>
8049034:
            e8 a7 f9 ff ff
8049039:
            e8 c2 ff ff ff
                           call 8049000 < getbuf>
804903e:
                          mov %eax,%edx
            89 c2
                          mov 0xffffffc(%ebp),%eax
8049040
            8b 45 fc
                           cmp $0xdeadbeef,%eax
8049043
            3d ef be ad de
                           je 8049058 <test+0x38>
8049048
            74 0e
            c7 04 24 80 99 04 08 movl $0x8049980,(%esp)
804904a:
                         call 8048850 <puts@plt>
8049051:
            e8 fa f7 ff ff
8049056:
                         leave
8049057:
                         ret
8049058:
            3b 15 d0 a1 04 08
                               cmp 0x804a1d0,%edx
                          je 8049072 <test+0x52>
mov %edx,0x4(%esp)
804905e:
            74 12
            89 54 24 04
8049060:
            c7 04 24 80 9b 04 08 movl $0x8049b80.(%esp)
8049064:
            e8 70 f7 ff ff
                          call 80487e0 <printf@plt>
804906b
8049070:
            с9
                         leave
8049071:
            с3
                         ret
8049072:
            89 54 24 04
                             mov %edx,0x4(%esp)
8049076:
            c7 04 24 63 9b 04 08 movl $0x8049b63,(%esp)
804907d:
            e8 5e f7 ff ff
                           call 80487e0 <printf@plt>
8049082:
            c7 04 24 03 00 00 00 movl $0x3,(%esp)
                           call 8048b20 <validate>
8049089:
            e8 92 fa ff ff
                         leave
804908e:
            с9
804908f:
           сЗ
                        ret
08049090 <launch>:
8049090:
                         push %ebp
8049091:
            89 e5
                          mov %esp,%ebp
8049093:
            83 ec 58
                           sub $0x58,%esp
8049096:
            89 7d fc
                           mov %edi,0xffffffc(%ebp)
8049099:
            89 c7
                          mov %eax,%edi
            a1 c8 a1 04 08 mov 0x804a1c8,%eax
804909b:
80490a0:
            89 5d f4
                           mov %ebx,0xffffff4(%ebp)
                           lea 0xfffffb4(%ebp),%ebx
80490a3:
            8d 5d b4
80490a61
            89 75 f8
                          mov %esi,0xffffff8(%ebp)
                          mov %edx,%esi
80490a91
            89 d6
80490ab
            85 c0
                          test %eax,%eax
            0f 85 9d 00 00 00 jne 8049150 <launch+0xc0>
80490ad:
80490b3:
            81 e3 f8 3f 00 00
                             and $0x3ff8,%ebx
80490b9:
            8d 04 1e
                            lea (%esi,%ebx,1),%eax
80490bc:
            8d 50 1e
                            lea 0x1e(%eax),%edx
                          and $0xffffff0,%edx
80490bf:
           83 e2 f0
                          sub %edx,%esp
80490c2:
            29 d4
            8d 54 24 1b
                           lea 0x1b(%esp),%edx
80490c4:
                           and $0xfffffff0,%edx
80490c8:
            83 e2 f0
80490ch
            89 44 24 08
                            mov %eax,0x8(%esp)
           c7 44 24 04 f4 00 00 movl $0xf4,0x4(%esp)
80490cf:
80490d6:
            00
80490d7:
            89 14 24
                            mov %edx,(%esp)
80490da:
            e8 71 f6 ff ff
                           call 8048750 <memset@plt>
80490df:
            a1 c4 a1 04 08
                             mov 0x804a1c4,%eax
80490e4:
            85 c0
                          test %eax,%eax
                           jne 8049100 <launch+0x70>
80490e6:
            75 18
                            mov 0x804a1cc,%eax
80490e8:
            a1 cc a1 04 08
80490ed:
                          test %eax.%eax
            85 c0
                          ine 8049140 <launch+0xb0>
80490ef
            75 4f
80490f1
            c7 04 24 bc 9b 04 08 movl $0x8049bbc,(%esp)
80490f8:
           e8 e3 f6 ff ff
                          call 80487e0 <printf@plt>
80490fd:
           8d 76 00
                           lea 0x0(%esi),%esi
8049100:
                         test %edi,%edi
            85 ff
8049102:
            74 32
                          je 8049136 <launch+0xa6>
8049104:
            e8 87 fe ff ff
                           call 8048f90 <testn>
8049109:
            8b 35 dc a1 04 08 mov 0x804a1dc,%esi
                         test %esi,%esi
804910f:
           85 f6
            75 16
                          jne 8049129 <launch+0x99>
8049111:
            c7 04 24 18 9a 04 08 movl $0x8049a18,(%esp)
8049113:
```

```
804911a:
            e8 31 f7 ff ff
                           call 8048850 <puts@plt>
804911f:
           c7 05 dc a1 04 08 00 movl $0x0,0x804a1dc
8049126:
            00 00 00
8049129:
            8b 5d f4
                                 0xffffff4(%ebp),%ebx
                           mov
804912c:
            8b 75 f8
                                0xffffff8(%ebp),%esi
                          mov
                          mov 0xffffffc(%ebp),%edi
804912f:
           8b 7d fc
8049132
           89 ec
                                %ebp,%esp
                          mov
                         pop %ebp
8049134
           5d
8049135
           сЗ
                        ret
            e8 e5 fe ff ff
                           call 8049020 <test>
8049136:
804913b:
            eb cc
                                8049109 < launch+0x79>
                          jmp
804913d:
            8d 76 00
                                0x0(%esi),%esi
8049140:
            c7 04 24 ab 9b 04 08
                                movl $0x8049bab,(%esp)
                           call 80487e0 <printf@plt>
8049147:
            e8 94 f6 ff ff
804914c:
            eb b2
                          imp 8049100 < launch+0x70>
804914e:
            66 90
                          xchg %ax,%ax
            a1 a8 a1 04 08
                             mov 0x804a1a8.%eax
8049150
                            mov %ebx,0x8(%esp)
8049155
            89 5c 24 08
            c7 44 24 04 9b 9b 04 movl $0x8049b9b,0x4(%esp)
8049159
8049160:
            08
8049161:
            89 04 24
                           mov %eax,(%esp)
8049164:
            e8 a7 f6 ff ff
                           call 8048810 <fprintf@plt>
8049169:
            e9 45 ff ff ff
                          jmp 80490b3 <launch+0x23>
804916e:
            66 90
                          xchg %ax,%ax
08049170 < launcher>:
                         push %ebp
8049170:
           55
                          mov %esp,%ebp
8049171
            89 e5
                         push %ebx
8049173:
            53
            83 ec 24
8049174:
                          sub $0x24,%esp
8049177:
            8b 45 08
                           mov 0x8(%ebp),%eax
804917a:
            a3 e8 a1 04 08
                          mov %eax,0x804a1e8
804917f:
           8b 45 0c
                          mov 0xc(%ebp),%eax
8049182:
            c7 44 24 14 00 00 00 movl $0x0,0x14(%esp)
8049189:
            00
804918a:
            c7 44 24 10 00 00 00 movl $0x0,0x10(%esp)
8049191:
            00
            c7 44 24 0c 22 01 00 movl $0x122,0xc(%esp)
8049192
8049199
            00
804919a:
            a3 ec a1 04 08
                              mov %eax,0x804a1ec
804919f:
            c7 44 24 08 07 00 00 movl $0x7,0x8(%esp)
80491a6:
            00
80491a7:
            c7 44 24 04 00 40 00 movl $0x4000,0x4(%esp)
80491ae:
80491af:
           c7 04 24 00 60 58 55 movl $0x55586000,(%esp)
80491b6:
            e8 35 f5 ff ff
                          call 80486f0 <mmap@plt>
                         cmp $0xffffffff,%eax
80491bb:
            83 f8 ff
80491be
                          mov
                                %eax %ebx
            89 c3
                          je 8049207 <launcher+0x97>
80491c0:
            74 45
            8d 80 f8 3f 00 00 lea 0x3ff8(%eax),%eax
80491c2:
80491c8:
            a3 04 ae 04 08
                             mov %eax,0x804ae04
                         mov %esp,%edx
mov %eax,%esp
80491cd:
            89 e2
80491cf:
           89 c4
80491d1:
            a3 08 ae 04 08
                           mov
                                    %eax,0x804ae08
80491d6:
            a1 e8 a1 04 08
                              mov 0x804a1e8,%eax
80491db:
            89 15 f0 a1 04 08
                             mov %edx.0x804a1f0
            8b 15 ec a1 04 08
                              mov 0x804a1ec,%edx
80491e1:
                          call 8049090 <launch>
80491e7:
            e8 a4 fe ff ff
80491ec:
            a1 f0 a1 04 08
                            mov 0x804a1f0,%eax
80491f1:
           89 c4
                         mov %eax,%esp
           c7 45 0c 00 40 00 00 movl $0x4000,0xc(%ebp)
80491f3:
80491fa:
           89 5d 08
                          mov %ebx,0x8(%ebp)
                           add $0x24,%esp
80491fd:
           83 c4 24
8049200:
           5b
                         pop %ebx
                         pop %ebp
8049201:
            5d
                           jmp 8048870 <munmap@plt>
8049202:
            e9 69 f6 ff ff
            a1 a0 a1 04 08
8049207:
                             mov 0x804a1a0,%eax
            c7 44 24 08 23 00 00 movl $0x23,0x8(%esp)
804920c:
8049213
            00
8049214
            c7 44 24 04 01 00 00 movl $0x1,0x4(%esp)
804921b:
            00
804921c:
            c7 04 24 cc 99 04 08 movl $0x80499cc,(%esp)
8049223:
            89 44 24 0c
                           mov %eax,0xc(%esp)
8049227:
            e8 d4 f5 ff ff
                           call 8048800 <fwrite@plt>
804922c:
            c7 04 24 01 00 00 00 movl $0x1,(%esp)
8049233:
                        call 80488a0 <exit@plt>
            e8 68 f6 ff ff
8049238:
                        nop
            90
            8d b4 26 00 00 00 00 lea 0x0(%esi),%esi
8049239:
```

```
08049240 <main>:
8049240:
            8d 4c 24 04
                             lea 0x4(%esp),%ecx
8049244:
                           and $0xffffff0,%esp
            83 e4 f0
8049247:
            ff 71 fc
                          pushl 0xffffffc(%ecx)
804924a:
                         push %ebp
            55
804924b:
            89 e5
                          mov %esp,%ebp
                         push %edi
804924d
            57
                         push %esi
804924e
            56
804924f
           53
                         push %ebx
8049250:
            51
                         push %ecx
8049251:
            83 ec 18
                           sub $0x18,%esp
8049254:
                           mov (%ecx),%esi
            8b 31
8049256:
            8b 59 04
                           mov 0x4(%ecx),%ebx
            c7 44 24 04 60 8a 04 movl $0x8048a60,0x4(%esp)
8049259:
8049260:
            08
            c7 04 24 0b 00 00 00 movl $0xb,(%esp)
8049261:
                           call 8048710 <signal@plt>
8049268
            e8 a3 f4 ff ff
            c7 44 24 04 90 8a 04 movl $0x8048a90,0x4(%esp)
804926d:
8049274
            08
8049275:
            c7 04 24 07 00 00 00 movl $0x7,(%esp)
                        call 8048710 <signal@plt>
804927c:
            e8 8f f4 ff ff
8049281:
            c7 44 24 04 20 8a 04 movl $0x8048a20,0x4(%esp)
8049288:
            c7 04 24 0e 00 00 00 movl $0xe,(%esp)
8049289:
8049290:
            e8 7b f4 ff ff
                           call 8048710 < signal@plt>
            c7 44 24 04 f0 89 04 movl $0x80489f0,0x4(%esp)
8049295:
804929c:
            c7 04 24 04 00 00 00 movl $0x4,(%esp)
804929d·
            e8 67 f4 ff ff call 8048710 <signal@plt>
80492a4:
            a1 a4 a1 04 08
80492a9:
                              mov 0x804a1a4,%eax
80492ae:
            c7 45 e8 00 00 00 00 movl $0x0,0xffffffe8(%ebp)
80492b5:
            c7 45 ec 01 00 00 00 movl $0x1,0xffffffec(%ebp)
80492bc:
            a3 c0 a1 04 08
                             mov %eax,0x804a1c0
            c7 44 24 08 f8 9b 04 movl $0x8049bf8,0x8(%esp)
80492c1:
80492c8:
            80
                             mov %ebx,0x4(%esp)
80492c9:
            89 5c 24 04
                            mov %esi,(%esp)
80492cd:
            89 34 24
80492d0:
            e8 cb f4 ff ff
                           call 80487a0 <getopt@plt>
                         cmp $0xff,%al
80492d5·
            3c ff
80492d7:
            74 20
                          je 80492f9 <main+0xb9>
80492d9:
            83 e8 66
                            sub $0x66,%eax
80492dc:
            3c 12
                           cmp $0x12,%al
80492de:
            77 10
                           ja 80492f0 <main+0xb0>
80492e0:
                           movzbl %al,%eax
            0f b6 c0
            ff 24 85 00 9c 04 08 jmp *0x8049c00(,%eax,4)
80492e3:
80492ea:
            8d b6 00 00 00 00
                                lea 0x0(%esi),%esi
                         mov (%ebx),%eax
80492f0:
           8b 03
80492f2·
           e8 c9 f7 ff ff
                           call 8048ac0 <usage>
                          jmp 80492c1 <main+0x81>
80492f7·
           eb c8
            a1 d4 a1 04 08
                             mov 0x804a1d4,%eax
80492f9:
80492fe:
           85 c0
                         test %eax,%eax
8049300:
            0f 84 e5 01 00 00 je 80494eb <main+0x2ab>
            a1 d0 a1 04 08
8049306:
                              mov 0x804a1d0,%eax
804930b:
            89 04 24
                            mov %eax,(%esp)
                           call 80487f0 < srandom@plt>
804930e:
            e8 dd f4 ff ff
8049313:
            e8 e8 f3 ff ff
                           call 8048700 < random@plt>
                            and $0xff8,%eax
mov %eax,0xfffffe4(%ebp)
            25 f8 0f 00 00
8049318:
804931d:
            89 45 e4
            c7 44 24 04 04 00 00 movl $0x4,0x4(%esp)
8049320
8049327:
            00
8049328:
            8b 45 ec
                            mov 0xffffffec(%ebp),%eax
804932b:
            89 04 24
                            mov %eax,(%esp)
804932e:
            e8 fd f3 ff ff
                           call 8048730 <calloc@plt>
8049333:
            89 c7
                           mov %eax,%edi
                           mov 0xfffffec(%ebp),%eax
8049335:
            8b 45 ec
8049338:
            83 e8 02
                            sub $0x2,%eax
                           test %eax,%eax
804933b:
            85 c0
                           jle 8049363 <main+0x123>
804933d:
            7e 24
804933f
           8b 45 ec
                           mov 0xffffffec(%ebp),%eax
            bb 01 00 00 00
8049342:
                              mov $0x1,%ebx
8049347:
            8d 70 ff
                           lea 0xfffffff(%eax),%esi
804934a:
            8d b6 00 00 00 00
                                lea 0x0(%esi),%esi
8049350:
            e8 ab f3 ff ff
                           call 8048700 < random@plt>
8049355:
                            and $0x38,%eax
            83 e0 38
8049358:
                                  %eax,0xfffffffc(%edi,%ebx,4)
            89 44 9f fc
                            mov
804935c:
            83 c3 01
                            add $0x1,%ebx
804935f:
                          cmp %esi.%ebx
           39 f3
                           jne 8049350 <main+0x110>
            75 ed
8049361:
8049363:
            83 7d ec 01
                             cmpl $0x1,0xffffffec(%ebp)
```

```
8049367:
           804936d:
           8b 45 ec
                           mov 0xffffffec(%ebp),%eax
8049370:
                           shl $0x2,%eax
8049373:
           c7 44 07 f8 38 00 00 movl $0x38,0xfffffff8(%edi,%eax,1)
804937a:
804937b:
           c7 44 07 fc 00 00 00 movl $0x0,0xfffffffc(%edi,%eax,1)
8049382
           00
8049383
           a1 70 a1 04 08
                             mov 0x804a170,%eax
8049388
           89 04 24
                           mov %eax,(%esp)
           e8 30 f4 ff ff
                           call 80487c0 <alarm@plt>
804938b:
8049390:
           31 db
                          xor %ebx,%ebx
8049392:
           8b 45 e4
                           mov 0xffffffe4(%ebp),%eax
8049395:
           03 04 9f
                           add
                                (%edi,%ebx,4),%eax
8049398:
           83 c3 01
                           add
                                $0x1,%ebx
804939b:
           89 44 24 04
                            mov %eax,0x4(%esp)
804939f:
                           mov 0xfffffe8(%ebp),%eax
           8b 45 e8
                           mov %eax.(%esp)
80493a21
           89 04 24
           e8 c6 fd ff ff
                           call 8049170 < launcher>
80493a5:
                           cmp 0xffffffec(%ebp),%ebx
80493aa
           3b 5d ec
80493ad:
           7c e3
                          jl 8049392 <main+0x152>
80493af:
           83 c4 18
                          add $0x18,%esp
80493b2:
           31 c0
                          xor %eax,%eax
80493b4:
                        pop %ecx
80493b5:
                              %ebx
           5b
                         pop
80493b6:
           5e
                        pop
                              %esi
80493b7:
           5f
                        pop
                             %edi
80493b8:
                             %ebp
           5d
                        pop
80493b9·
           8d 61 fc
                          lea 0xffffffc(%ecx),%esp
80493bc:
           сЗ
                        ret
           c7 05 d8 a1 04 08 01 movl $0x1,0x804a1d8
80493bd:
80493c4:
           00 00 00
80493c7:
           c7 05 c4 a1 04 08 01 movl $0x1,0x804a1c4
80493ce:
           00 00 00
80493d1:
           c7 05 70 a1 04 08 01 movl $0x1,0x804a170
80493d8:
           00 00 00
80493db:
           e9 e1 fe ff ff
                          imp 80492c1 <main+0x81>
80493e0:
           c7 44 24 04 e1 9b 04 movl $0x8049be1,0x4(%esp)
80493e7
           08
80493e81
           a1 ac a1 04 08
                             mov 0x804a1ac,%eax
                           mov %eax,(%esp)
80493ed:
           89 04 24
                          call 80487b0 <fopen@plt>
80493f0:
           e8 bb f3 ff ff
80493f5:
           85 c0
                         test %eax,%eax
80493f7:
           a3 c0 a1 04 08
                            mov %eax,0x804a1c0
                         jne 80492c1 <main+0x81>
80493fc:
           Of 85 bf fe ff ff
           a1 ac a1 04 08
8049402:
                            mov 0x804a1ac,%eax
8049407:
           c7 04 24 e3 9b 04 08 movl $0x8049be3,(%esp)
                           mov %eax,0x4(%esp)
804940e:
           89 44 24 04
                          call 80487e0 <printf@plt>
8049412
           e8 c9 f3 ff ff
8049417
                          mov (%ebx),%eax
           8h 03
           e8 a2 f6 ff ff
                          call 8048ac0 <usage>
8049419
804941e:
           e9 9e fe ff ff
                           jmp
                               80492c1 <main+0x81>
8049423:
           c7 45 e8 01 00 00 00
                                movl $0x1,0xffffffe8(%ebp)
804942a:
           c7 45 ec 05 00 00 00
                                movl $0x5,0xffffffec(%ebp)
8049431:
           e9 8b fe ff ff
                          jmp
                                80492c1 <main+0x81>
           c7 05 c4 a1 04 08 01
8049436:
                                movl $0x1,0x804a1c4
804943d:
           00 00 00
           e9 7c fe ff ff
8049440:
                           ami
                                80492c1 <main+0x81>
           c7 05 68 a1 04 08 01 movl $0x1,0x804a168
8049445:
804944c
           00 00 00
                          jmp 80492c1 <main+0x81>
804944f:
           e9 6d fe ff ff
           a1 ac a1 04 08
8049454:
                             mov 0x804a1ac,%eax
8049459:
           89 04 24
                           mov %eax,(%esp)
804945c:
           e8 2f f4 ff ff
                          call 8048890 <__strdup@plt>
8049461:
           a3 d4 a1 04 08
                             mov %eax,0x804a1d4
8049466:
           89 44 24 04
                            mov %eax,0x4(%esp)
804946a:
           c7 04 24 c9 9b 04 08 movl $0x8049bc9,(%esp)
                          call 80487e0 <printf@plt>
8049471:
           e8 6a f3 ff ff
                             mov 0x804a1d4,%eax
8049476:
           a1 d4 a1 04 08
                           mov %eax,(%esp)
804947h
           89 04 24
            e8 ed 00 00 00
                              call 8049570 <gencookie>
804947e
8049483:
           a3 d0 a1 04 08
                              mov %eax,0x804a1d0
```