

sequence.c

A C program using the fork() system call that generates this sequence in the child process.

Solve the Collatz conjecture.

Getting Started

Environmental dependencies

OS: CentOS-8.1.1911-x86_64

Language: C

How to compile?

```
gcc sequence.c -o sequence
```

How to run?

```
./ sequence <number>
```

How to traces system calls?

```
strace ./sequence
```

Screenshots

```
[root@localhost ~]# gcc sequence.c -o sequence
[root@localhost ~]# ./sequence
usage: ./sequence <number>
[root@localhost ~]# ./sequence 35
35
106
53
160
80
40
20
10
5
16
8
4
2
1
[root@localhost ~]#
```

```
[root@localhost ~]# strace ./sequence
execve("./sequence", [ "./sequence" ], 0x7ffd3ae5a4e0 /* 43 vars */) = 0
brk(NULL)                               = 0xd19000
arch_prctl(0x3001 /* ARCH_??? */, 0x7ffd33a29090) = -1 EINVAL (Invalid argument)
access("/etc/ld.so.preload", R_OK)      = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/etc/ld.so.cache", 0_RDONLY|O_CLOEXEC) = 3
fstat(3, {st_mode=S_IFREG|0644, st_size=72089, ...}) = 0
mmap(NULL, 72089, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7ff000149000
close(3)                                = 0
openat(AT_FDCWD, "/lib64/libc.so.6", 0_RDONLY|O_CLOEXEC) = 3
read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\2009\2\0\0\0\0"... , 832) = 832
fstat(3, {st_mode=S_IFREG|0755, st_size=5993088, ...}) = 0
mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7ff000147000
mmap(NULL, 3942432, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7ffefffb70000
mprotect(0x7ffefffd29000, 2097152, PROT_NONE) = 0
mmap(0x7ffeffff29000, 24576, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1b9000) = 0x7ffeffff29000
mmap(0x7ffeffff2f000, 14368, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7ffeffff2f000
```

How to contact me?

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