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Институт №8 “Компьютерные науки и прикладная математика”
Кафедра №806 “Вычислительная математика и программирование”

Лабораторная работа №1 по курсу
«Операционные системы»

Группа: М8О-214Б-23

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Оценка: _____

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Постановка задачи

Вариант 16.

Родительский процесс создает дочерний процесс. Первой строкой пользователь в консоль родительского процесса вводит имя файла, которое будет использовано для открытия File с таким именем на запись. Перенаправление стандартных потоков ввода-вывода показано на картинке выше. Родительский и дочерний процесс должны быть представлены разными программами. Родительский процесс принимает от пользователя строки произвольной длины и пересылает их в pipe1. Процесс child проверяет строки на валидность правилу. Если строка соответствует правилу, то она выводится в стандартный поток вывода дочернего процесса, иначе в pipe2 выводится информация об ошибке. Родительский процесс полученные от child ошибки выводит в стандартный поток вывода.

Вариант 16) Правило проверки: строка должна оканчиваться на “;” или “.”

Общий метод и алгоритм решения

Использованные системные вызовы:

- **int pipe(int *fd):**
Создает пару файловых дескрипторов для межпроцессного взаимодействия (pipe). Один дескриптор используется для записи, другой - для чтения.
- **int open(const char *pathname, int flags, mode_t mode):**
Открывает файл с заданным именем. Параметры определяют режим открытия (например, только для записи, создание нового файла, обрезка существующего файла) и права доступа для нового файла.
- **pid_t fork(void):**
Создает новый процесс (дочерний) путем копирования текущего (родительского) процесса. Возвращает PID дочернего процесса в родительском процессе и 0 в дочернем.
- **int dup2(int oldfd, int newfd):**
Дублирует файловый дескриптор oldfd в newfd, перенаправляя стандартный ввод или вывод (например, связывает ввод-вывод с pipe).
- **int execvp(const char *file, char *const argv[]):**
Замещает текущий процесс новым процессом, запуская исполняемый файл с аргументами. Если выполнение не удастся, возвращает -1.
- **ssize_t read(int fd, void *buf, size_t count):**
Читает данные из файла (или pipe) в буфер. Возвращает количество фактически прочитанных байтов или 0, если достигнут конец файла.
- **ssize_t write(int fd, const void *buf, size_t count):**
Записывает данные из буфера в файл (или pipe). Возвращает количество фактически записанных байтов.
- **int close(int fd):**
Закрывает файловый дескриптор, освобождая ресурсы, связанные с ним.
- **pid_t wait(int *status):**
Ожидает завершения дочернего процесса. Возвращает PID завершившегося процесса или -1 в случае ошибки.
- **void perror(const char *s):**

Выводит сообщение об ошибке, основанное на коде ошибки, связанной с последним системным вызовом, с предварительным сообщением, указанным в параметре s.

- **void exit(int status):**

Завершает выполнение программы с указанным статусом, освобождая все ресурсы.

- **size_t strcspn(const char *s, const char *reject):**

Вычисляет длину начального сегмента строки s, который не содержит ни одного из символов в строке reject.

- **int snprintf(char *str, size_t size, const char *format, ...):**

Форматирует строку и записывает ее в буфер, гарантируя, что не произойдет переполнение буфера.

Описание программы

Данный код состоит из двух частей: родительского процесса и дочернего процесса.

Родительский процесс собирает ввод пользователя, передает данные дочернему процессу, который проверяет валидность строк и возвращает результаты обратно родительскому процессу. Все валидные и невалидные строки записываются в файл.

Основные функции программы:

1. Создание pipe:

Программа создает два трубопровода (pipe) для межпроцессного взаимодействия. Один трубопровод используется для передачи строк от родительского процесса к дочернему, а другой — для передачи результатов обратно.

2. Запрос имени файла:

Родительский процесс запрашивает у пользователя имя файла, в который будут записываться результаты.

3. Открытие файла:

Файл открывается для записи, создается, если не существует, и обрезается, если существует.

4. Создание дочернего процесса:

Используя fork(), программа создает дочерний процесс. Если создание дочернего процесса прошло успешно, он перенаправляет стандартный ввод и стандартный вывод через dup2() на соответствующие трубопроводы.

5. Ввод строк:

Родительский процесс считывает строки из стандартного ввода (консоли) и передает их через трубопровод в дочерний процесс.

6. Обработка строк в дочернем процессе:

Дочерний процесс считывает строки из стандартного ввода (который теперь перенаправлен на первый трубопровод). Он проверяет каждую строку: если последний символ строки “,” или “.”, считается, что строка валидная, и она

помечается как "Валидная строка". Если строка невалидная, она помечается как "Не валидная строка".

7. Запись результатов в файл:

Родительский процесс считывает результаты из второго трубопровода и записывает их в указанный файл.

8. Завершение работы:

После завершения передачи данных родительский процесс ожидает завершения дочернего процесса с помощью `wait()` и закрывает открытые файловые дескрипторы.

Как работает программа:

- Программа сначала создает два трубопровода для межпроцессного взаимодействия.
- Она запрашивает у пользователя имя файла, в который будут записываться результаты.
- Далее, программа открывает файл и создает дочерний процесс с помощью `fork()`.
- В дочернем процессе стандартный ввод и вывод перенаправляются на трубопроводы.
- Родительский процесс запрашивает ввод строк от пользователя и записывает их в первый трубопровод.
- Дочерний процесс считывает строки из первого трубопровода, проверяет их на валидность и отправляет результаты через второй трубопровод.
- Родительский процесс считывает результаты из второго трубопровода и записывает их в файл.
- После завершения всех операций происходит очистка: закрываются файловые дескрипторы и дочерний процесс завершается.

Примечания:

- Программа использует `fgets()` для считывания строк, что позволяет обрабатывать ввод с учетом пробелов.
- В случае ошибок при работе с файлами или создании процессов, программа выводит сообщение об ошибке с помощью `perror()`, после чего завершается.

Код программы

parent.c

```
#include <stdlib.h>

#include <unistd.h>

#include <string.h>

#include <fcntl.h>

#include <sys/wait.h>
```

```
#define BUFFER_SIZE 1024

#define ERROR_BUFFER_SIZE 256

void write_string(int fd, const char *str) {
    write(fd, str, strlen(str));
}

void read_string(int fd, char *buffer, size_t size) {
    read(fd, buffer, size);
}

int main() {
    int pipe1[2];
    int pipe2[2];
    char filename[BUFFER_SIZE];

    if (pipe(pipe1) == -1 || pipe(pipe2) == -1) {
        write_string(STDOUT_FILENO, "Failed to create pipes");
        exit(EXIT_FAILURE);
    }

    const char *prompt = "Введите имя файла: ";

    write_string(STDOUT_FILENO, prompt);

    read_string(STDIN_FILENO, filename, sizeof(filename));

    filename[strcspn(filename, "\n")] = '\0';
```

```
int file_descriptor = open(filename, O_WRONLY | O_CREAT |  
O_TRUNC, S_IRUSR | S_IWUSR);  
  
if (file_descriptor == -1) {  
    write_string(STDOUT_FILENO, "Не удалось открыть файл");  
    exit(EXIT_FAILURE);  
}  
  
pid_t child_pid = fork();  
  
if (child_pid == -1) {  
    write_string(STDOUT_FILENO, "Не удалось создать процесс");  
    exit(EXIT_FAILURE);  
}  
  
if (child_pid == 0) {  
    close(pipe1[1]);  
    close(pipe2[0]);  
  
    dup2(pipe1[0], STDIN_FILENO);  
    dup2(pipe2[1], STDOUT_FILENO);  
  
    char *args[] = { "./child", NULL };  
    execvp(args[0], args);  
  
    write_string(STDOUT_FILENO, "Не удалось запустить дочерний  
процесс");  
    exit(EXIT_FAILURE);  
}
```

```
} else {

    char input[BUFFER_SIZE];

    char valid_msg[BUFFER_SIZE];

    close(pipe1[0]);

    close(pipe2[1]);

    const char *input_prompt = "Введите строки (CTRL+D для  
завершения):\n";

    write_string(STDOUT_FILENO, input_prompt);

    while (read(STDIN_FILENO, input, sizeof(input)) > 0) {

        input[strcspn(input, "\n")] = '\0';

        write(pipe1[1], input, strlen(input) + 1);

    }

    close(pipe1[1]);

    while (1) {

        ssize_t bytes_read = read(pipe2[0], valid_msg,  
sizeof(valid_msg));

        if (bytes_read > 0) {

            valid_msg[bytes_read] = '\0'; // Завершение строки

            write(file_descriptor, valid_msg,  
strlen(valid_msg)); // Запись валидной строки в файл

        } else if (bytes_read == 0) {

            break; // Конец чтения
```

```

    }

}

    wait(NULL);

    close(pipe2[0]);

    close(file_descriptor);

}

return 0;

}

```

child.c

```

#include <stdio.h>

#include <stdlib.h>

#include <unistd.h>

#include <string.h>

#define BUFFER_SIZE 1024

#define ERROR_BUFFER_SIZE 256

int main() {

    char input[BUFFER_SIZE];

    char error_msg[ERROR_BUFFER_SIZE];

    while (read(STDIN_FILENO, input, sizeof(input)) > 0) {

```



```
input[strcspn(input, "\n")] = '\0';

if (input[strlen(input) - 1] == ';' || input[strlen(input)
- 1] == '.') {

    char tmp[1100];

    int ret = snprintf(tmp, sizeof(tmp), "Валидная строка:
%s\n", input);

    if (ret < 0) {

        abort();

    }

    write(STDERR_FILENO, tmp, strlen(tmp));

    write(STDOUT_FILENO, tmp, strlen(tmp));

} else {

    if (strlen(input)) {

        int ret = snprintf(error_msg, sizeof(error_msg),
"Не валидная строка: %s\n", input);

        if (ret < 0) {

            abort();

        }

        write(STDOUT_FILENO, error_msg, strlen(error_msg));

    }

}

}
```

```
return 0;
```

```
1
```

Протокол работы программы

Тестирование:

```
$ gcc parent.c -o parent
```

```
$ gcc child.c -o child
```

```
$ ./parent
```

Введите имя файла: test

Введите строки (CTRL+D для завершения):

```
dajmmmnac1;
```

Валидная строка: dajmmmnac1;

```
kdcnskv.
```

Валидная строка:kdcnskv.

```
Wknvcslvo ods
```

```
a;cadjvudbk
```

Файл test:

Валидная строка: dajmmmnac1;

Валидная строка: kdcnskv.

Не валидная строка: Wknvcslvo ods

Не валидная строка: a;cadjvudbk

Strace:

sudo dtruss ./parent //аналог strace для macOS

```
stat64("/usr/lib/libtailspin.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
```

```
0x7FF7B116CAD0, 0x0) = -1 2
```

```
stat64("/usr/lib/libtailspin.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
```

```
Graph\0", 0x7FF7B116CB20, 0x0) = -1 2
```

```
Graph.framework/Versions/A/AttributeGraph\0", 0x7FF7B116CAA0, 0x0) = -1 2
```

```
Graph\0", 0x7FF7B116CB20, 0x0) = -1 2
```

```
0x7FF7B116CB20, 0x0) = -1 2
```

```
/libfaceCore.dylib\0", 0x7FF7B116CAB0, 0x0) = -1 2
```

```
0x7FF7B116CB20, 0x0) = -1 2
```

```
gnition\0", 0x7FF7B116CB20, 0x0) = -1 2
```

```
gnition.framework/Versions/A/TextRecognition\0", 0x7FF7B116CA90, 0x0) = -1 2
```

```
gnition\0", 0x7FF7B116CB20, 0x0) = -1 2
```

```
0x7FF7B116CB20, 0x0) = -1 2
```

```
ramework/Versions/A/Futhark\0", 0x7FF7B116CAA0, 0x0) = -1 2
```

```

stat64("/System/Library/PrivateFrameworks/Futhark.framework/Versions/A/Futhark\0",
0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/BioeFoundation.framework/Versions/A/BioeFou
ndation\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/BioeFoun
dation.framework/Versions/A/BioeFoundation\0", 0x7FF7B116CA90, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/BioeFoundation.framework/Versions/A/BioeFou
ndation\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/InertiaCam.framework/Versions/A/InertiaCam\0"
, 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/InertiaCa
m.framework/Versions/A/InertiaCam\0", 0x7FF7B116CAA0, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/InertiaCam.framework/Versions/A/InertiaCam\0"
, 0x7FF7B116CB20, 0x0) = -1 2
stat64("/usr/lib/swift/libswiftMetal.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/swift/libswiftMetal.dylib\0",
0x7FF7B116CAD0, 0x0) = -1 2
stat64("/usr/lib/swift/libswiftMetal.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/swift/libswiftCompression.dylib\0"
, 0x7FF7B116CAC0, 0x0) = -1 2
stat64("/usr/lib/swift/libswiftCompression.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/FTAWD.framework/Versions/A/FTAWD\0",
0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/FTAWD.fra
mework/Versions/A/FTAWD\0", 0x7FF7B116CAB0, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/FTAWD.framework/Versions/A/FTAWD\0",
0x7FF7B116CB20, 0x0) = -1 2
stat64("/usr/lib/libFDR.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/libFDR.dylib\0", 0x7FF7B116CAD0,
0x0) = -1 2
stat64("/usr/lib/libFDR.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/BioeStreams.framework/Versions/A/BioeStream
s\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/BioeStre
ams.framework/Versions/A/BioeStreams\0", 0x7FF7B116CAA0, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/BioeStreams.framework/Versions/A/BioeStream
s\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/SoftwareUpdateCoreConnect.framework/Versions/
A/SoftwareUpdateCoreConnect\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/SoftwareU
pdateCoreConnect.framework/Versions/A/SoftwareUpdateCoreConnect\0", 0x7FF7B116CA80, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/SoftwareUpdateCoreConnect.framework/Versions/
A/SoftwareUpdateCoreConnect\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/OSAnalytics.framework/Versions/A/OSAnalytics\
0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/OSAnalyti
cs.framework/Versions/A/OSAnalytics\0", 0x7FF7B116CAA0, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/OSAnalytics.framework/Versions/A/OSAnalytics\
0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/NetworkServiceProxy.framework/Versions/A/Netw
orkServiceProxy\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/NetworkSe
rviceProxy.framework/Versions/A/NetworkServiceProxy\0", 0x7FF7B116CA90, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/NetworkServiceProxy.framework/Versions/A/Netw
orkServiceProxy\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/usr/lib/swift/libswiftQuartzCore.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/swift/libswiftQuartzCore.dylib\0",
0x7FF7B116CAC0, 0x0) = -1 2
stat64("/usr/lib/swift/libswiftQuartzCore.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/kperf.framework/Versions/A/kperf\0",
0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/kperf.fra
mework/Versions/A/kperf\0", 0x7FF7B116CAB0, 0x0) = -1 2

```

```

0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/kperf.framework/Versions/A/kperf\0",
0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/ktrace.framework/Versions/A/ktrace\0",
0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/ktrace.fr
amework/Versions/A/ktrace\0", 0x7FF7B116CAB0, 0x0)
stat64("/System/Library/PrivateFrameworks/ktrace.framework/Versions/A/ktrace\0",
0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/MobileSystemServices.framework/Versions/A/Mob
ileSystemServices\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/MobileSys
temServices.framework/Versions/A/MobileSystemServices\0", 0x7FF7B116CA90, 0x0)
stat64("/System/Library/PrivateFrameworks/MobileSystemServices.framework/Versions/A/Mob
ileSystemServices\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/SignpostSupport.framework/Versions/A/Signpost
Support\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/SignpostS
upport.framework/Versions/A/SignpostSupport\0", 0x7FF7B116CA90, 0x0)
stat64("/System/Library/PrivateFrameworks/SignpostSupport.framework/Versions/A/Signpost
Support\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/SampleAnalysis.framework/Versions/A/SampleAna
lysis\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/SampleAna
lysis.framework/Versions/A/SampleAnalysis\0", 0x7FF7B116CAA0, 0x0)
stat64("/System/Library/PrivateFrameworks/SampleAnalysis.framework/Versions/A/SampleAna
lysis\0", 0x7FF7B116CB20, 0x0)
stat64("/usr/lib/libamsupport.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
0x7FF7B116CAD0, 0x0) = -1 2
stat64("/usr/lib/libamsupport.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/BioMePubSub.framework/Versions/A/BioMePubSub\
ub.framework/Versions/A/BioMePubSub\0", 0x7FF7B116CAA0, 0x0)
0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/BioMePubSub.framework/Versions/A/BioMePubSub\
e\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/BioMeStorage.framework/Versions/A/BioMeStorag
age.framework/Versions/A/BioMeStorage\0", 0x7FF7B116CAA0, 0x0)
stat64("/System/Library/PrivateFrameworks/BioMeStorage.framework/Versions/A/BioMeStorag
e\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/DeviceIdentity.framework/Versions/A/DeviceIde
ntity\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/DeviceIde
ntity.framework/Versions/A/DeviceIdentity\0", 0x7FF7B116CAA0, 0x0)
stat64("/System/Library/PrivateFrameworks/DeviceIdentity.framework/Versions/A/DeviceIde
ntity\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/SymptomReporter.framework/Versions/A/SymptomR
eporter\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/SymptomRe
porter.framework/Versions/A/SymptomReporter\0", 0x7FF7B116CA90, 0x0)
stat64("/System/Library/PrivateFrameworks/SymptomReporter.framework/Versions/A/SymptomR
eporter\0", 0x7FF7B116CB20, 0x0) = -1 2
= -1 2 stat64("/usr/lib/swift/libswiftUniformTypeIdentifiers.dylib\0", 0x7FF7B116CB20, 0x0)
rs.dylib\0", 0x7FF7B116CAC0, 0x0)
= -1 2 stat64("/usr/lib/swift/libswiftUniformTypeIdentifiers.dylib\0", 0x7FF7B116CB20, 0x0)
= -1 2 stat64("/usr/lib/swift/libswiftAccelerate.dylib\0", 0x7FF7B116CB20, 0x0)
0x7FF7B116CAC0, 0x0)
= -1 2 stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/swift/libswiftAccelerate.dylib\0",
stat64("/usr/lib/swift/libswiftAccelerate.dylib\0", 0x7FF7B116CB20, 0x0)
stat64("/usr/lib/libpartition2_dynamic.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
0x7FF7B116CAD0, 0x0)

```

```

stat64("/usr/lib/libpartition2_dynamic.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/AFKUser.framework/Versions/A/AFKUser\0",
0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/AFKUser.f
ramework/Versions/A/AFKUser\0", 0x7FF7B116CAA0, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/AFKUser.framework/Versions/A/AFKUser\0",
0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/Osprey.framework/Versions/A/Osprey\0",
0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/Osprey.fr
amework/Versions/A/Osprey\0", 0x7FF7B116CAB0, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/Osprey.framework/Versions/A/Osprey\0",
0x7FF7B116CB20, 0x0) = -1 2
stat64("/usr/lib/swift/libswiftCryptoTokenKit.dylib\0", 0x7FF7B116CB20, 0x0)
= -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/swift/libswiftCryptoTokenKit.dylib
\0", 0x7FF7B116CAC0, 0x0) = -1 2
stat64("/usr/lib/swift/libswiftCryptoTokenKit.dylib\0", 0x7FF7B116CB20, 0x0)
= -1 2
stat64("/usr/lib/swift/libswiftCoreMedia.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/swift/libswiftCoreMedia.dylib\0",
0x7FF7B116CAC0, 0x0) = -1 2
stat64("/usr/lib/swift/libswiftCoreMedia.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/kperfdata.framework/Versions/A/kperfdata\0",
0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/kperfdata
.framework/Versions/A/kperfdata\0", 0x7FF7B116CAA0, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/kperfdata.framework/Versions/A/kperfdata\0",
0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/BulkSymbolication.framework/Versions/A/BulkSy
mbolication\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/BulkSymbo
lication.framework/Versions/A/BulkSymbolication\0", 0x7FF7B116CA90, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/BulkSymbolication.framework/Versions/A/BulkSy
mbolication\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/usr/lib/swift/libswiftOSLog.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/swift/libswiftOSLog.dylib\0",
0x7FF7B116CAD0, 0x0) = -1 2
stat64("/usr/lib/swift/libswiftOSLog.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/usr/lib/swift/libswiftAVFoundation.dylib\0", 0x7FF7B116CB20, 0x0)
= -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/swift/libswiftAVFoundation.dylib\0
", 0x7FF7B116CAC0, 0x0) = -1 2
stat64("/usr/lib/swift/libswiftAVFoundation.dylib\0", 0x7FF7B116CB20, 0x0)
= -1 2
stat64("/System/Library/PrivateFrameworks/Symbolication.framework/Versions/A/Symbolicat
ion\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/Symbolica
tion.framework/Versions/A/Symbolication\0", 0x7FF7B116CAA0, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/Symbolication.framework/Versions/A/Symbolicat
ion\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/Netrb.framework/Versions/A/Netrb\0",
0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/Netrb.fra
mework/Versions/A/Netrb\0", 0x7FF7B116CAB0, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/Netrb.framework/Versions/A/Netrb\0",
0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Library/Frameworks/OSLog.framework/Versions/A/OSLog\0", 0x7FF7B116CB20,
0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/Frameworks/OSLog.framework/
Versions/A/OSLog\0", 0x7FF7B116CAB0, 0x0) = -1 2
stat64("/System/Library/Frameworks/OSLog.framework/Versions/A/OSLog\0", 0x7FF7B116CB20,
0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/InternalSwiftProtobuf.framework/Versions/A/In
ternalSwiftProtobuf\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/InternalS
wiftProtobuf.framework/Versions/A/InternalSwiftProtobuf\0", 0x7FF7B116CA90, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/InternalSwiftProtobuf.framework/Versions/A/In
ternalSwiftProtobuf\0", 0x7FF7B116CB20, 0x0) = -1 2

```

```

, 0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/HIDDisplay.framework/Versions/A/HIDDisplay\0",
y.framework/Versions/A/HIDDisplay\0", 0x7FF7B116CAA0, 0x0)
, 0x7FF7B116CB20, 0x0)
stat64("/System/Library/Frameworks/CryptoKit.framework/Versions/A/CryptoKit\0",
0x7FF7B116CB20, 0x0)
ork/Versions/A/CryptoKit\0", 0x7FF7B116CAB0, 0x0)
stat64("/System/Library/Frameworks/CryptoKit.framework/Versions/A/CryptoKit\0",
0x7FF7B116CB20, 0x0)
stat64("/usr/lib/libedit.3.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
0x7FF7B116CAD0, 0x0)
stat64("/usr/lib/libedit.3.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
s\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/FeatureFl
ags.framework/Versions/A/FeatureFlags\0", 0x7FF7B116CAA0, 0x0)
s\0", 0x7FF7B116CB20, 0x0)
= -1 2 stat64("/usr/lib/swift/libswiftNaturalLanguage.dylib\0", 0x7FF7B116CB20, 0x0)
b\0", 0x7FF7B116CAC0, 0x0)
= -1 2 stat64("/usr/lib/swift/libswiftNaturalLanguage.dylib\0", 0x7FF7B116CB20, 0x0)
oPeer\0", 0x7FF7B116CB20, 0x0)
oPeer.framework/Versions/A/WiFiPeerToPeer\0", 0x7FF7B116CAA0, 0x0)
oPeer\0", 0x7FF7B116CB20, 0x0)
igProfileHelper\0", 0x7FF7B116CB20, 0x0)
fileHelper.framework/Versions/A/ConfigProfileHelper\0", 0x7FF7B116CA90, 0x0)
igProfileHelper\0", 0x7FF7B116CB20, 0x0)
0", 0x7FF7B116CB20, 0x0)
er.framework/Versions/A/ANECCompiler\0", 0x7FF7B116CAA0, 0x0)
0", 0x7FF7B116CB20, 0x0)
.dylib\0", 0x7FF7B116CB20, 0x0)
/Versions/A/Libraries/libCoreFSCache.dylib\0", 0x7FF7B116CA90, 0x0)
.dylib\0", 0x7FF7B116CB20, 0x0)
t.dylib\0", 0x7FF7B116CB20, 0x0)
/Versions/A/Libraries/libCoreVMClient.dylib\0", 0x7FF7B116CA90, 0x0)
t.dylib\0", 0x7FF7B116CB20, 0x0)
0x7FF7B116CB20, 0x0)
/Versions/A/OpenGL\0", 0x7FF7B116CAB0, 0x0)
0x7FF7B116CB20, 0x0)
upport.dylib\0", 0x7FF7B116CB20, 0x0)
/Versions/A/Libraries/libCVMSPPluginSupport.dylib\0", 0x7FF7B116CA90, 0x0)

```

```

support.dylib\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/Frameworks/OpenGL.framework/Versions/A/Libraries/libCVMSPPluginS
ylib\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/Frameworks/OpenGL.framework
/Versions/A/Libraries/libGFXShared.dylib\0", 0x7FF7B116CAA0, 0x0)
stat64("/System/Library/Frameworks/OpenGL.framework/Versions/A/Libraries/libGFXShared.d
ylib\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/Frameworks/OpenGL.framework/Versions/A/Libraries/libGLImage.dyl
ib\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/Frameworks/OpenGL.framework
/Versions/A/Libraries/libGLImage.dylib\0", 0x7FF7B116CAA0, 0x0)
stat64("/System/Library/Frameworks/OpenGL.framework/Versions/A/Libraries/libGLImage.dyl
ib\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/Frameworks/OpenGL.framework/Versions/A/Libraries/libGLU.dylib\0
", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/Frameworks/OpenGL.framework
/Versions/A/Libraries/libGLU.dylib\0", 0x7FF7B116CAA0, 0x0)
stat64("/System/Library/Frameworks/OpenGL.framework/Versions/A/Libraries/libGLU.dylib\0
", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/Frameworks/OpenGL.framework/Versions/A/Libraries/libGL.dylib\0"
, 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/Frameworks/OpenGL.framework
/Versions/A/Libraries/libGL.dylib\0", 0x7FF7B116CAA0, 0x0)
stat64("/System/Library/Frameworks/OpenGL.framework/Versions/A/Libraries/libGL.dylib\0"
, 0x7FF7B116CB20, 0x0)
stat64("/System/Library/Frameworks/OpenCL.framework/Versions/A/OpenCL\0",
0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/Frameworks/OpenCL.framework
/Versions/A/OpenCL\0", 0x7FF7B116CAB0, 0x0)
stat64("/System/Library/Frameworks/OpenCL.framework/Versions/A/OpenCL\0",
0x7FF7B116CB20, 0x0)
stat64("/System/Library/Frameworks/AVFAudio.framework/Versions/A/AVFAudio\0",
0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/Frameworks/AVFAudio.framewo
rk/Versions/A/AVFAudio\0", 0x7FF7B116CAB0, 0x0)
stat64("/System/Library/Frameworks/AVFAudio.framework/Versions/A/AVFAudio\0",
0x7FF7B116CB20, 0x0)
stat64("/System/Library/Frameworks/CoreTransferable.framework/Versions/A/CoreTransferab
le\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/Frameworks/CoreTransferable
.framework/Versions/A/CoreTransferable\0", 0x7FF7B116CAA0, 0x0)
stat64("/System/Library/Frameworks/CoreTransferable.framework/Versions/A/CoreTransferab
le\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/Frameworks/ExtensionFoundation.framework/Versions/A/ExtensionFo
undation\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/Frameworks/ExtensionFoundat
ion.framework/Versions/A/ExtensionFoundation\0", 0x7FF7B116CA90, 0x0)
stat64("/System/Library/Frameworks/ExtensionFoundation.framework/Versions/A/ExtensionFo
undation\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/Frameworks/MetalPerformanceShaders.framework/Versions/A/Framework
s/MPSBenchmarkLoop.framework/Versions/A/MPSBenchmarkLoop\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/Frameworks/MetalPerformance
Shaders.framework/Versions/A/Frameworks/MPSBenchmarkLoop.framework/Versions/A/MPSBenchmarkLo
op\0", 0x7FF7B116CA60, 0x0)
stat64("/System/Library/Frameworks/MetalPerformanceShaders.framework/Versions/A/Framework
s/MPSBenchmarkLoop.framework/Versions/A/MPSBenchmarkLoop\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/Frameworks/MetalPerformanceShaders.framework/Versions/A/Framework
s/MPSFunctions.framework/Versions/A/MPSFunctions\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/Frameworks/MetalPerformance
Shaders.framework/Versions/A/Frameworks/MPSFunctions.framework/Versions/A/MPSFunctions\0",
0x7FF7B116CA70, 0x0)
stat64("/System/Library/Frameworks/MetalPerformanceShaders.framework/Versions/A/Framework
s/MPSFunctions.framework/Versions/A/MPSFunctions\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/Frameworks/MetalPerformanceShadersGraph.framework/Versions/A/Me
talPerformanceShadersGraph\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/Frameworks/MetalPerformance
ShadersGraph.framework/Versions/A/MetalPerformanceShadersGraph\0", 0x7FF7B116CA80, 0x0)
stat64("/System/Library/Frameworks/MetalPerformanceShadersGraph.framework/Versions/A/Me
talPerformanceShadersGraph\0", 0x7FF7B116CB20, 0x0)

```

```

Core\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/Frameworks/SharedWithYouCore.framework/Versions/A/SharedWithYouCore\0", 0x7FF7B116CAA0, 0x0)
stat64("/System/Library/Frameworks/SharedWithYouCore.framework/Versions/A/SharedWithYouCore\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/AAAFoundation.framework/Versions/A/AAAFoundation\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/AAAFoundation.framework/Versions/A/AAAFoundation\0", 0x7FF7B116CAA0, 0x0)
stat64("/System/Library/PrivateFrameworks/AAAFoundation.framework/Versions/A/AAAFoundation\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/AAAFoundationSwift.framework/Versions/A/AAAFoundationSwift\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/AAAFoundationSwift.framework/Versions/A/AAAFoundationSwift\0", 0x7FF7B116CA90, 0x0)
stat64("/System/Library/PrivateFrameworks/AAAFoundationSwift.framework/Versions/A/AAAFoundationSwift\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/AccelerateGPU.framework/Versions/A/AccelerateGPU\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/AccelerateGPU.framework/Versions/A/AccelerateGPU\0", 0x7FF7B116CAA0, 0x0)
stat64("/System/Library/PrivateFrameworks/AccelerateGPU.framework/Versions/A/AccelerateGPU\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/AppleDeviceQuerySupport.framework/Versions/A/AppleDeviceQuerySupport\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/AppleDeviceQuerySupport.framework/Versions/A/AppleDeviceQuerySupport\0", 0x7FF7B116CA80, 0x0)
stat64("/System/Library/PrivateFrameworks/AppleDeviceQuerySupport.framework/Versions/A/AppleDeviceQuerySupport\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/AppleFlatBuffers.framework/Versions/A/AppleFlatBuffers\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/AppleFlatBuffers.framework/Versions/A/AppleFlatBuffers\0", 0x7FF7B116CA90, 0x0)
stat64("/System/Library/PrivateFrameworks/AppleFlatBuffers.framework/Versions/A/AppleFlatBuffers\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/AppleJPEGXL.framework/Versions/A/AppleJPEGXL\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/AppleJPEGXL.framework/Versions/A/AppleJPEGXL\0", 0x7FF7B116CAA0, 0x0)
stat64("/System/Library/PrivateFrameworks/AppleJPEGXL.framework/Versions/A/AppleJPEGXL\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/AppleKeyStore.framework/Versions/A/AppleKeyStore\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/AppleKeyStore.framework/Versions/A/AppleKeyStore\0", 0x7FF7B116CAA0, 0x0)
stat64("/System/Library/PrivateFrameworks/AppleKeyStore.framework/Versions/A/AppleKeyStore\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/AppleMobileFileIntegrity.framework/Versions/A/AppleMobileFileIntegrity\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/AppleMobileFileIntegrity.framework/Versions/A/AppleMobileFileIntegrity\0", 0x7FF7B116CA80, 0x0)
stat64("/System/Library/PrivateFrameworks/AppleMobileFileIntegrity.framework/Versions/A/AppleMobileFileIntegrity\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/AtomicInternal.framework/Versions/A/AtomicInternal\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/AtomicInternal.framework/Versions/A/AtomicInternal\0", 0x7FF7B116CA90, 0x0)
stat64("/System/Library/PrivateFrameworks/AtomicInternal.framework/Versions/A/AtomicInternal\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/AudioAnalytics.framework/Versions/A/AudioAnalytics\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/AudioAnalytics.framework/Versions/A/AudioAnalytics\0", 0x7FF7B116CAA0, 0x0)
stat64("/System/Library/PrivateFrameworks/AudioAnalytics.framework/Versions/A/AudioAnalytics\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/BioMedDSL.framework/Versions/A/BioMedDSL\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/BioMedDSL.framework/Versions/A/BioMedDSL\0", 0x7FF7B116CAA0, 0x0)

```



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0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/BiomeDSL.framework/Versions/A/BiomeDSL\0",
meFlexibleStorage\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/BiomeFlex
ibleStorage.framework/Versions/A/BiomeFlexibleStorage\0", 0x7FF7B116CA90, 0x0)
stat64("/System/Library/PrivateFrameworks/BiomeFlexibleStorage.framework/Versions/A/Bio
meFlexibleStorage\0", 0x7FF7B116CB20, 0x0)
y\0", stat64("/System/Library/PrivateFrameworks/BiomeLibrary.framework/Versions/A/BiomeLibrar
ary.framework/Versions/A/BiomeLibrary\0", 0x7FF7B116CAA0, 0x0)
y\0", stat64("/System/Library/PrivateFrameworks/BiomeLibrary.framework/Versions/A/BiomeLibrar
0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/BiomeSync.framework/Versions/A/BiomeSync\0",
.framework/Versions/A/BiomeSync\0", 0x7FF7B116CAA0, 0x0)
0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/CMImaging.framework/Versions/A/CMImaging\0",
0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/CMImaging
.framework/Versions/A/CMImaging\0", 0x7FF7B116CAA0, 0x0)
0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/CMImaging.framework/Versions/A/CMImaging\0",
0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/CMPhoto.framework/Versions/A/CMPhoto\0",
ramework/Versions/A/CMPhoto\0", 0x7FF7B116CAA0, 0x0)
0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/CMPhoto.framework/Versions/A/CMPhoto\0",
0", stat64("/System/Library/PrivateFrameworks/CascadeSets.framework/Versions/A/CascadeSets\
ts.framework/Versions/A/CascadeSets\0", 0x7FF7B116CAA0, 0x0)
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ts.framework/Versions/A/CloudAssets\0", 0x7FF7B116CAA0, 0x0)
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ectionsInternal\0", 0x7FF7B116CB20, 0x0)
nsInternal.framework/Versions/A/CollectionsInternal\0", 0x7FF7B116CA90, 0x0)
stat64("/System/Library/PrivateFrameworks/CollectionsInternal.framework/Versions/A/Coll
ectionsInternal\0", 0x7FF7B116CB20, 0x0)
oreSceneUnderstanding\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/CoreScene
Understanding.framework/Versions/A/CoreSceneUnderstanding\0", 0x7FF7B116CA90, 0x0)
oreSceneUnderstanding\0", 0x7FF7B116CB20, 0x0)
sExtras\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/CoreUtils
Extras.framework/Versions/A/CoreUtilsExtras\0", 0x7FF7B116CA90, 0x0)
sExtras\0", 0x7FF7B116CB20, 0x0)
itPrivate\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/CryptoKit
Private.framework/Versions/A/CryptoKitPrivate\0", 0x7FF7B116CA90, 0x0)
itPrivate\0", 0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/CryptoKitPrivate.framework/Versions/A/CryptoK
0x7FF7B116CB20, 0x0)
stat64("/System/Library/PrivateFrameworks/Darwinup.framework/Versions/A/Darwinup\0",
0x7FF7B116CB20, 0x0)

```

```

stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/Darwinup.
framework/Versions/A/Darwinup\0", 0x7FF7B116CAA0, 0x0)
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stat64("/System/Volumes/Preboot/Cryptexes/OS/System/Library/PrivateFrameworks/Dendrite.
framework/Versions/A/Dendrite\0", 0x7FF7B116CAA0, 0x0)
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s\0", stat64("/System/Library/PrivateFrameworks/FontServices.framework/Versions/A/FontService
ces.framework/Versions/A/FontServices\0", 0x7FF7B116CAA0, 0x0)
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yData.dylib\0", 0x7FF7B116CB20, 0x0)
ces.framework/libXtFontStaticRegistr
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ces.framework/libXtFontStaticRegistryData.dylib\0", 0x7FF7B116CA90, 0x0)
yData.dylib\0", stat64("/System/Library/PrivateFrameworks/FontServices.framework/libXtFontStaticRegistr
0", 0x7FF7B116CB20, 0x0)
ng.framework/Versions/A/FramePacing\0", 0x7FF7B116CAA0, 0x0)
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s/libGPUCompilerUtils.dylib\0", 0x7FF7B116CB20, 0x0)
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s/libGPUCompilerUtils.dylib\0", 0x7FF7B116CB20, 0x0)
s/libIvm-flatbuffers.dylib\0", 0x7FF7B116CB20, 0x0)
er.framework/Versions/32023/Libraries/libIvm-flatbuffers.dylib\0", 0x7FF7B116CA80, 0x0)
s/libIvm-flatbuffers.dylib\0", 0x7FF7B116CB20, 0x0)
1\0", stat64("/System/Library/PrivateFrameworks/GRDBInternal.framework/Versions/A/GRDBIntern
al.framework/Versions/A/GRDBInternal\0", 0x7FF7B116CAA0, 0x0)
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ativeFunctions\0", 0x7FF7B116CB20, 0x0)
eFunctions.framework/Versions/A/GenerativeFunctions\0", 0x7FF7B116CA90, 0x0)
rativeFunctions\0", 0x7FF7B116CB20, 0x0)
ons/A/GenerativeFunctionsFoundation\0", 0x7FF7B116CB20, 0x0)
eFunctionsFoundation\0", 0x7FF7B116CA80, 0x0)
ons/A/GenerativeFunctionsFoundation\0", 0x7FF7B116CB20, 0x0)
Versions/A/GenerativeFunctionsInstrumentation\0", 0x7FF7B116CB20, 0x0)
eFunctionsInstrumentation\0", 0x7FF7B116CA70, 0x0)
Versions/A/GenerativeFunctionsInstrumentation\0", 0x7FF7B116CB20, 0x0)
iveModels\0", 0x7FF7B116CB20, 0x0)
eModels.framework/Versions/A/GenerativeModels\0", 0x7FF7B116CA90, 0x0)

```

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iveModels\0", 0x7FF7B116CB20, 0x0) = -1 2
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/A/GenerativeModelsFoundation\0", 0x7FF7B116CB20, 0x0) = -1 2
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cesCore\0", 0x7FF7B116CB20, 0x0) = -1 2
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cesCore\0", 0x7FF7B116CB20, 0x0) = -1 2
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0x7FF7B116CB20, 0x0) = -1 2
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uration\0", 0x7FF7B116CB20, 0x0) = -1 2
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ration.framework/Versions/A/IPConfiguration\0", 0x7FF7B116CA90, 0x0) = -1 2
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uration\0", 0x7FF7B116CB20, 0x0) = -1 2
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InstalledContentLibrary\0", 0x7FF7B116CB20, 0x0) = -1 2
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ContentLibrary.framework/Versions/A/InstalledContentLibrary\0", 0x7FF7B116CA80, 0x0) = -1 2
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InstalledContentLibrary\0", 0x7FF7B116CB20, 0x0) = -1 2
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s/A/IntelligencePlatformLibrary\0", 0x7FF7B116CB20, 0x0) = -1 2
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ncePlatformLibrary.framework/Versions/A/IntelligencePlatformLibrary\0", 0x7FF7B116CA80, 0x0) = -1 2
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s/A/IntelligencePlatformLibrary\0", 0x7FF7B116CB20, 0x0) = -1 2
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IsolatedCoreAudioClient\0", 0x7FF7B116CB20, 0x0) = -1 2
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oreAudioClient.framework/Versions/A/IsolatedCoreAudioClient\0", 0x7FF7B116CA80, 0x0) = -1 2
stat64("/System/Library/PrivateFrameworks/IsolatedCoreAudioClient.framework/Versions/A/
IsolatedCoreAudioClient\0", 0x7FF7B116CB20, 0x0) = -1 2
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LocalAuthenticationCore\0", 0x7FF7B116CB20, 0x0) = -1 2
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enticationCore.framework/Versions/A/LocalAuthenticationCore\0", 0x7FF7B116CA80, 0x0) = -1 2
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LocalAuthenticationCore\0", 0x7FF7B116CB20, 0x0) = -1 2
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0x7FF7B116CB20, 0x0) = -1 2
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work/Versions/A/MIL\0", 0x7FF7B116CAB0, 0x0) = -1 2
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0x7FF7B116CB20, 0x0) = -1 2
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stat64("/System/Library/PrivateFrameworks/MMLAssetIO.framework/Versions/A/MMLAssetIO\0",
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ilerRuntime\0", 0x7FF7B116CB20, 0x0) = -1 2
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stat64("/System/Library/PrivateFrameworks/MMLCompilerRuntime.framework/Versions/A/MMLComp
ilerRuntime\0", 0x7FF7B116CB20, 0x0) = -1 2
```

```

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rServices.framework/Versions/A/MLCompilerServices\0", 0x7FF7B116CA90, 0x0) = -1 2
pilerServices\0", 0x7FF7B116CB20, 0x0) = -1 2
securi\0", 0x7FF7B116CB20, 0x0) = -1 2
curity.framework/Versions/A/MessageSecurity\0", 0x7FF7B116CA90, 0x0) = -1 2
securi\0", 0x7FF7B116CB20, 0x0) = -1 2
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Services.framework/Versions/A/ModelManagerServices\0", 0x7FF7B116CA90, 0x0) = -1 2
elManagerServices\0", 0x7FF7B116CB20, 0x0) = -1 2
nternal\0", 0x7FF7B116CB20, 0x0) = -1 2
nternal.framework/Versions/A/ParsingInternal\0", 0x7FF7B116CA90, 0x0) = -1 2
nternal\0", 0x7FF7B116CB20, 0x0) = -1 2
/A/PhotosensitivityProcessing\0", 0x7FF7B116CB20, 0x0) = -1 2
ityProcessing.framework/Versions/A/PhotosensitivityProcessing\0", 0x7FF7B116CA80, 0x0) = -1 2
/A/PhotosensitivityProcessing\0", 0x7FF7B116CB20, 0x0) = -1 2
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ematizer.framework/Versions/A/PoirotSchematizer\0", 0x7FF7B116CA90, 0x0) = -1 2
Schematizer\0", 0x7FF7B116CB20, 0x0) = -1 2
playLibrary\0", 0x7FF7B116CB20, 0x0) = -1 2
playLibrary.framework/Versions/A/ProDisplayLibrary\0", 0x7FF7B116CA90, 0x0) = -1 2
playLibrary\0", 0x7FF7B116CB20, 0x0) = -1 2
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DaemonSupport.framework/Versions/A/ProactiveDaemonSupport\0", 0x7FF7B116CA90, 0x0) = -1 2
roactiveDaemonSupport\0", 0x7FF7B116CB20, 0x0) = -1 2
0x7FF7B116CB20, 0x0) = -1 2
PromptKit.framework/Versions/A/PromptKit\0",
.framework/Versions/A/PromptKit\0", 0x7FF7B116CAA0, 0x0) = -1 2
0x7FF7B116CB20, 0x0) = -1 2
ctionInternal\0", 0x7FF7B116CB20, 0x0) = -1 2

```

```
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```

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stat64("/usr/lib/libAXSafeCategoryBundle.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/libAXSafeCategoryBundle.dylib\0", 0x7FF7B116CA00, 0x0)
stat64("/usr/lib/libAXSafeCategoryBundle.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/usr/lib/libAppleArchive.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/libAppleArchive.dylib\0", 0x7FF7B116CA00, 0x0)

```

```

stat64("/usr/lib/libAppleArchive.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/usr/lib/libCoreEntitlements.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
0x7FF7B116CAD0, 0x0) = -1 2
stat64("/usr/lib/libCoreEntitlements.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/usr/lib/libRosetta.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
0x7FF7B116CAD0, 0x0) = -1 2
stat64("/usr/lib/libRosetta.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/usr/lib/libTLE.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
0x0) stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/libTLE.dylib\0", 0x7FF7B116CAD0,
= -1 2
stat64("/usr/lib/libTLE.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/usr/lib/libcrypto.46.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
0x7FF7B116CAD0, 0x0) = -1 2
stat64("/usr/lib/libcrypto.46.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/usr/lib/libcupolicy.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
0x7FF7B116CAD0, 0x0) = -1 2
stat64("/usr/lib/libcupolicy.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/usr/lib/libmrc.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
0x0) stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/libmrc.dylib\0", 0x7FF7B116CAD0,
= -1 2
stat64("/usr/lib/libmrc.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/usr/lib/libnswifftls.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
0x7FF7B116CAD0, 0x0) = -1 2
stat64("/usr/lib/libnswifftls.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/usr/lib/libssl.48.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
0x7FF7B116CAD0, 0x0) = -1 2
stat64("/usr/lib/libssl.48.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
= -1 2 stat64("/usr/lib/swift/libswiftDistributed.dylib\0", 0x7FF7B116CB20, 0x0)
, 0x7FF7B116CAC0, 0x0) = -1 2
= -1 2 stat64("/usr/lib/swift/libswiftDistributed.dylib\0", 0x7FF7B116CB20, 0x0)
= -1 2 stat64("/usr/lib/swift/libswiftFileProvider.dylib\0", 0x7FF7B116CB20, 0x0)
", 0x7FF7B116CAC0, 0x0) = -1 2
= -1 2 stat64("/usr/lib/swift/libswiftFileProvider.dylib\0", 0x7FF7B116CB20, 0x0)
stat64("/usr/lib/swift/libswiftMLCompute.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
0x7FF7B116CAC0, 0x0) = -1 2
stat64("/usr/lib/swift/libswiftMLCompute.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
= -1 2 stat64("/usr/lib/swift/libswiftObservation.dylib\0", 0x7FF7B116CB20, 0x0)
, 0x7FF7B116CAC0, 0x0) = -1 2
= -1 2 stat64("/usr/lib/swift/libswiftObservation.dylib\0", 0x7FF7B116CB20, 0x0)
= -1 2 stat64("/usr/lib/swift/libswiftRegexBuilder.dylib\0", 0x7FF7B116CB20, 0x0)
", 0x7FF7B116CAC0, 0x0) = -1 2
= -1 2 stat64("/usr/lib/swift/libswiftRegexBuilder.dylib\0", 0x7FF7B116CB20, 0x0)
= -1 2 stat64("/usr/lib/swift/libswiftSynchronization.dylib\0", 0x7FF7B116CB20, 0x0)

```

```

b\0", stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/swift/libswiftSynchronization.dylib", 0x7FF7B116C0, 0x0) = -1 2
stat64("/usr/lib/swift/libswiftSynchronization.dylib\0", 0x7FF7B116CB20, 0x0)
stat64("/usr/lib/swift/libswiftSystem.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
0x7FF7B116C0, 0x0) stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/swift/libswiftSystem.dylib\0",
stat64("/usr/lib/swift/libswiftSystem.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
= -1 2 stat64("/usr/lib/swift/libswift_Builtin_float.dylib\0", 0x7FF7B116CB20, 0x0)
\0", stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/swift/libswift_Builtin_float.dylib", 0x7FF7B116C0, 0x0) = -1 2
= -1 2 stat64("/usr/lib/swift/libswift_Builtin_float.dylib\0", 0x7FF7B116CB20, 0x0)
= -1 2 stat64("/usr/lib/swift/libswift_Concurrency.dylib\0", 0x7FF7B116CB20, 0x0)
", stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/swift/libswift_Concurrency.dylib\0", 0x7FF7B116C0, 0x0) = -1 2
= -1 2 stat64("/usr/lib/swift/libswift_Concurrency.dylib\0", 0x7FF7B116CB20, 0x0)
= -1 2 stat64("/usr/lib/swift/libswift_RegexParser.dylib\0", 0x7FF7B116CB20, 0x0)
", stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/swift/libswift_RegexParser.dylib\0", 0x7FF7B116C0, 0x0) = -1 2
= -1 2 stat64("/usr/lib/swift/libswift_RegexParser.dylib\0", 0x7FF7B116CB20, 0x0)
= -1 2 stat64("/usr/lib/swift/libswift_StringProcessing.dylib\0", 0x7FF7B116CB20, 0x0)
lib\0", stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/swift/libswift_StringProcessing.dylib", 0x7FF7B116C0, 0x0) = -1 2
= -1 2 stat64("/usr/lib/swift/libswift_StringProcessing.dylib\0", 0x7FF7B116CB20, 0x0)
stat64("/usr/lib/swift/libswift_errno.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
0x7FF7B116C0, 0x0) stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/swift/libswift_errno.dylib\0",
stat64("/usr/lib/swift/libswift_errno.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/usr/lib/swift/libswift_math.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
0x7FF7B116C0, 0x0) stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/swift/libswift_math.dylib\0",
stat64("/usr/lib/swift/libswift_math.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/usr/lib/swift/libswift_signal.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
0x7FF7B116C0, 0x0) stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/swift/libswift_signal.dylib\0",
stat64("/usr/lib/swift/libswift_signal.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/usr/lib/swift/libswift_stdio.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
0x7FF7B116C0, 0x0) stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/swift/libswift_stdio.dylib\0",
stat64("/usr/lib/swift/libswift_stdio.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/usr/lib/swift/libswift_time.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
0x7FF7B116C0, 0x0) stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/swift/libswift_time.dylib\0",
stat64("/usr/lib/swift/libswift_time.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/usr/lib/swift/libswiftsys_time.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
0x7FF7B116C0, 0x0) stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/swift/libswiftsys_time.dylib\0",
stat64("/usr/lib/swift/libswiftsys_time.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
stat64("/usr/lib/swift/libswiftunistd.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
0x7FF7B116C0, 0x0) stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/swift/libswiftunistd.dylib\0",
stat64("/usr/lib/swift/libswiftunistd.dylib\0", 0x7FF7B116CB20, 0x0) = -1 2
= -1 2 stat64("/usr/lib/system/libsystem_darwindirectory.dylib\0", 0x7FF7B116CB20, 0x0)
ylib\0", stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/system/libsystem_darwindirectory.d", 0x7FF7B116C0, 0x0) = -1 2

```



```

= -1 2 stat64("/usr/lib/system/libsystem_darwindirectory.dylib\0", 0x7FF7B116CB20, 0x0)
= -1 2 stat64("/usr/lib/system/libsystem_eligibility.dylib\0", 0x7FF7B116CB20, 0x0)
\0", stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/system/libsystem_eligibility.dylib
\0", 0x7FF7B116CAC0, 0x0) = -1 2
= -1 2 stat64("/usr/lib/system/libsystem_eligibility.dylib\0", 0x7FF7B116CB20, 0x0)
= -1 2 stat64("/usr/lib/system/libsystem_sanitizers.dylib\0", 0x7FF7B116CB20, 0x0)
0", stat64("/System/Volumes/Preboot/Cryptexes/OS/usr/lib/system/libsystem_sanitizers.dylib\
0", 0x7FF7B116CAC0, 0x0) = -1 2
= -1 2 stat64("/usr/lib/system/libsystem_sanitizers.dylib\0", 0x7FF7B116CB20, 0x0)
open("/Users/romanmarkin/Documents/OS_labs/parent\0", 0x0, 0x0) = 3 0
__mac_syscall(0x7FF815440F23, 0x2, 0x7FF7B116D250) = 0 0
map_with_linking_np(0x7FF7B116D1D0, 0x1, 0x7FF7B116D200) = -1 22
close(0x3) = 0 0
mprotect(0x10ED83000, 0x4000, 0x1) = 0 0
open("/dev/dtracehelper\0", 0x2, 0x0) = 3 0
ioctl(0x3, 0x80086804, 0x7FF7B116C688) = 0 0
close(0x3) = 0 0
shared_region_check_np(0xFFFFFFFFFFFFFFFF, 0x0, 0x0) = 0 0
access("/AppleInternal/XBS/.isChrooted\0", 0x0, 0x0) = -1 2
bsdthread_register(0x7FF815748BE0, 0x7FF815748BCC, 0x2000) = 1073742303 0
getpid(0x0, 0x0, 0x0) = 1527 0
shm_open(0x7FF8155ECF42, 0x0, 0x155EB388) = 3 0
fstat64(0x3, 0x7FF7B116CDB0, 0x0) = 0 0
mmap(0x0, 0x5000, 0x1, 0x40001, 0x3, 0x0) = 0x10ED8D000 0
close(0x3) = 0 0
csops(0x5F7, 0x0, 0x7FF7B116CEE4) = 0 0
ioctl(0x2, 0x4004667A, 0x7FF7B116CE74) = 0 0
mprotect(0x10ED97000, 0x1000, 0x0) = 0 0
mprotect(0x10EDA3000, 0x1000, 0x0) = 0 0
mprotect(0x10EDA4000, 0x1000, 0x0) = 0 0
mprotect(0x10EDB0000, 0x1000, 0x0) = 0 0
mprotect(0x10ED92000, 0xC8, 0x1) = 0 0
mprotect(0x10ED92000, 0xC8, 0x3) = 0 0
mprotect(0x10ED92000, 0xC8, 0x1) = 0 0
mprotect(0x10EDB1000, 0x1000, 0x1) = 0 0
mprotect(0x10EDB2000, 0xC8, 0x1) = 0 0
mprotect(0x10EDB2000, 0xC8, 0x3) = 0 0
mprotect(0x10EDB2000, 0xC8, 0x1) = 0 0
mprotect(0x10ED92000, 0xC8, 0x3) = 0 0
mprotect(0x10ED92000, 0xC8, 0x1) = 0 0
mprotect(0x10EDB1000, 0x1000, 0x3) = 0 0
mprotect(0x10EDB1000, 0x1000, 0x1) = 0 0
issetugid(0x0, 0x0, 0x0) = 0 0
getentropy(0x7FF7B116C5B0, 0x20, 0x0) = 0 0
0x7FF7B116CD6C) getattrlist("/Users/romanmarkin/Documents/OS_labs/parent\0", 0x7FF7B116CD50,
= 0 0
access("/Users/romanmarkin/Documents/OS_labs\0", 0x4, 0x0) = 0 0
open("/Users/romanmarkin/Documents/OS_labs\0", 0x0, 0x0) = 3 0
fstat64(0x3, 0x7FA193704470, 0x0) = 0 0

```

```

csrctl(0x0, 0x7FF7B116CF7C, 0x4)                = -1 1
fgetatrlst(0x3, 0x7FF7B116D010, 0x7FF7B116CF90)    = 0 0
__mac_syscall(0x7FF8219F6555, 0x2, 0x7FF7B116CF90)  = 0 0
fcntl(0x3, 0x32, 0x7FF7B116CC60)                  = 0 0
close(0x3)                                          = 0 0
open("/Users/romanmarkin/Documents/OS_labs/Info.plist\0", 0x0, 0x0)    = -1 2
proc_info(0x2, 0x5F7, 0xD)                        = 64 0
csops_audittoken(0x5F7, 0x10, 0x7FF7B116CFB0)       = -1 22
dtrace: error on enabled probe ID 1747 (ID 573: syscall::sysctl:return): invalid kernel
access in action #10 at DIF offset 28
dtrace: error on enabled probe ID 1747 (ID 573: syscall::sysctl:return): invalid kernel
access in action #10 at DIF offset 28
pipe(0x0, 0x0, 0x0)                                = 3 0
pipe(0x0, 0x0, 0x0)                                = 5 0
dtrace: error on enabled probe ID 1717 (ID 177: syscall::write:return): invalid kernel
access in action #12 at DIF offset 68

```

Вывод

Сегодня мы научились разрабатывать программу на C, которая использует межпроцессное взаимодействие через трубопроводы (pipes). Мы реализовали родительский процесс, который принимает пользовательский ввод и передает его дочернему процессу для проверки на валидность. В зависимости от результата проверки, валидные и невалидные строки записываются в указанный файл, что позволяет эффективно обрабатывать и сохранять данные. Возникли проблемы с нахождением аналога strace для мака, но успешно разобрался.