

**МОСКОВСКИЙ АВИАЦИОННЫЙ ИНСТИТУТ
(НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ УНИВЕРСИТЕТ)**

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**Лабораторная работа №4
по курсу «Операционные системы»**

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Условие

Требуется создать динамические библиотеки, которые реализуют заданный функционал. Далее использовать данные библиотеки 2-мя способами: 1. Во время компиляции (на этапе «линковки»/linking) 2. Во время исполнения программы. Библиотеки загружаются в память с помощью интерфейса ОС для работы с динамическими библиотеками

В конечном итоге, в лабораторной работе необходимо получить следующие части:

- Динамические библиотеки, реализующие контракты, которые заданы вариантом;
- Тестовая программа (программа №1), которая использует одну из библиотек, используя информацию, полученную на этапе компиляции;
- Тестовая программа (программа №2), которая загружает библиотеки, используя только их относительные пути и контракты.

Пользовательский ввод для обеих программ должен быть организован следующим образом:

1. Если пользователь вводит команду «0», то программа переключает одну реализацию контрактов на другую (необходимо только для программы №2);
2. «1 arg1 arg2 ... argN», где после «1» идут аргументы для первой функции, предусмотренной контрактами. После ввода команды происходит вызов первой функции, и на экране появляется результат её выполнения;
3. «2 arg1 arg2 ... argM», где после «2» идут аргументы для второй функции, предусмотренной контрактами. После ввода команды происходит вызов второй функции, и на экране появляется результат её выполнения.

Контракты и реализации функций:

1. **Функция PrimeCount:** Подсчёт количества простых чисел на отрезке $[A, B]$ (A, B - натуральные)
 - **Сигнатура:** `int PrimeCount(int A, int B)`
 - **Реализация 1:** Наивный алгоритм. Проверить делимость текущего числа на все предыдущие числа.
 - **Реализация 2:** Решето Эратосфена
2. **Функция Square:** Подсчет площади плоской геометрической фигуры по двум сторонам
 - **Сигнатура:** `float Square(float A, float B)`
 - **Реализация 1:** Фигура прямоугольник (площадь = $A \times B$)
 - **Реализация 2:** Фигура прямоугольный треугольник (площадь = $(A \times B) / 2$)

Цель работы: Приобретение практических навыков в:

- Создание динамических библиотек

- Создание программ, которые используют функции динамических библиотек

Задание: Разработать динамические библиотеки, реализующие заданные контракты, и две тестовые программы, которые используют эти библиотеки разными способами.

Динамические библиотеки должны:

- Реализовывать контракты функций PrimeCount и Square;
- Иметь две различные реализации каждой функции (библиотека 1 и библиотека 2);
- Быть кроссплатформенными (работать на Windows как DLL и на Linux как SO).

Программа №1 должна:

- Использовать одну из библиотек, используя информацию полученную на этапе компиляции;
- Поддерживать пользовательский ввод команд:
 - Команда «0» — вывод информации о текущей реализации;
 - Команда «1 A B» — вызов функции PrimeCount (A, B);
 - Команда «2 A B» — вызов функции Square (A, B);
- Выводить результаты выполнения функций в консоль.

Программа №2 должна:

- Загружать библиотеки во время исполнения программы, используя только их относительные пути и контракты;
- Поддерживать пользовательский ввод команд:
 - Команда «0» — переключение между реализациями библиотек (библиотека 1 библиотека 2);
 - Команда «1 A B» — вызов функции PrimeCount (A, B) из текущей библиотеки;
 - Команда «2 A B» — вызов функции Square (A, B) из текущей библиотеки;
- Динамически загружать и выгружать библиотеки по требованию пользователя;
- Выводить результаты выполнения функций в консоль.

Провести анализ двух типов использования библиотек: статической линковки во время компиляции и динамической загрузки во время выполнения.

Вариант: 19

Метод решения

Для решения задачи применена архитектура с двумя динамическими библиотеками и двумя тестовыми программами, использующими эти библиотеки разными способами. Первая программа использует статическую линковку библиотеки на этапе компиляции, вторая программа загружает библиотеки динамически во время выполнения с использованием интерфейса ОС.

Основной алгоритм работы

1. **Создание контрактов:** Разработаны заголовочные файлы (`prime.h`, `square.h`), определяющие интерфейсы функций, которые должны реализовывать динамические библиотеки
2. **Реализация библиотек:** Созданы две динамические библиотеки с разными реализациями функций:
 - Библиотека 1: наивный алгоритм подсчета простых чисел и площадь прямоугольника
 - Библиотека 2: алгоритм "Решето Эратосфена" и площадь прямоугольного треугольника
3. **Статическое использование (программа №1):** Библиотека линкуется на этапе компиляции, функции вызываются напрямую
4. **Динамическое использование (программа №2):** Библиотека загружается во время выполнения через Windows API, функции вызываются через указатели
5. **Обработка команд пользователя:** Обе программы реализуют единый интерфейс ввода команд с обработкой ошибок

Особенности реализации

Для обеспечения кроссплатформенности использованы условные директивы компиляции. Реализована корректная работа с динамическими библиотеками через механизмы экспорта/импорта функций. Обеспечена возможность переключения между реализациями в программе №2 без перекомпиляции.

Описание программы

Программа реализована в модульном стиле и состоит из шести основных компонентов.

Модуль `prime.h`

Определяет контракт для функции подсчета простых чисел:

- **Структура:** Заголовочный файл с макросами для экспорта/импорта функций
- **Функция:** `int PrimeCount(int A, int B)` - подсчет простых чисел на отрезке `[A, B]`
- **Особенности:** Использование `extern "C"` для предотвращения декорирования имен, условная компиляция для Windows

Модуль square.h

Определяет контракт для функции вычисления площади:

- **Структура:** Заголовочный файл с макросами для экспорта/импорта функций
- **Функция:** `float Square(float A, float B)` - вычисление площади фигуры
- **Особенности:** Проверка корректности входных данных (отрицательные значения)

Модуль lib_1 (первая реализация)

Содержит первую реализацию контрактов:

- **prime_1.cpp:** Наивный алгоритм подсчета простых чисел (проверка делимости на все предыдущие числа)
- **square_1.cpp:** Вычисление площади прямоугольника по формуле $S = A \times B$
- **Особенности:** Простая реализация, оптимальная для небольших диапазонов чисел

Модуль lib_2 (вторая реализация)

Содержит вторую реализацию контрактов:

- **prime_2.cpp:** Алгоритм "Решето Эратосфена" для эффективного подсчета простых чисел
- **square_2.cpp:** Вычисление площади прямоугольного треугольника по формуле $S = \frac{A \times B}{2}$
- **Особенности:** Использование вектора для оптимизации, эффективность для больших диапазонов

Модуль program1/main.cpp (статическое использование)

Реализует программу со статической линковкой:

- **Архитектура:** Компиляция с библиотекой lib_1, прямое использование функций
- **Интерфейс:** Консольное меню с командами 0, 1, 2, help, quit
- **Особенности:** Невозможность переключения реализаций без перекомпиляции
- **Обработка ввода:** Парсинг строк, валидация аргументов, обработка ошибок

Модуль program2/main.cpp (динамическое использование)

Реализует программу с динамической загрузкой:

- **Класс DynamicLibrary:** Обертка для работы с Windows API загрузки библиотек
 - load() - загрузка DLL файла
 - getFunction() - получение указателя на функцию
 - unload() - выгрузка библиотеки из памяти
- **Интерфейс:** Консольное меню с возможностью переключения библиотек (команда 0)
- **Особенности:** Загрузка библиотек по требованию, использование указателей на функции
- **Обработка ошибок:** Проверка существования файлов, корректности загрузки, доступности функций

Используемые системные вызовы и API

- **Windows API для динамических библиотек:** LoadLibraryW, GetProcAddress, FreeLibrary
- **Экспорт/импорт функций:** __declspec(dllexport), __declspec(dllimport)
- **Обработка строк:** std::stringstream, std::getline, преобразование в широкие строки
- **Управление памятью:** std::vector для алгоритма "Решето Эратосфена"

Архитектура программы демонстрирует два принципиально разных подхода к использованию библиотек: статическую линковку на этапе компиляции и динамическую загрузку во время выполнения. Оба подхода имеют свои преимущества и области применения, что позволяет проводить сравнительный анализ их характеристик.

Результаты

В результате работы была разработана система динамических библиотек и две тестовые программы, демонстрирующие разные подходы к использованию библиотек. Программа успешно функционирует в операционной системе Windows и может быть адаптирована для Unix-систем.

Ключевые особенности реализации

- **Две динамические библиотеки:** Созданы библиотеки mathlib1.dll и mathlib2.dll с различными реализациями одинаковых контрактов
- **Корректная экспорт/импорт функций:** Использование __declspec(dllexport) и extern "C" для обеспечения совместимости

- **Два метода использования библиотек:**
 - Статическая линковка на этапе компиляции (программа №1)
 - Динамическая загрузка во время выполнения (программа №2)
- **Единый интерфейс пользователя:** Обе программы поддерживают одинаковый набор команд (0, 1, 2, help, quit)
- **Переключение реализаций:** Программа №2 позволяет переключаться между библиотеками без перекомпиляции
- **Обработка ошибок:** Проверка корректности входных данных, загрузки библиотек и доступности функций.

Пример работы программы

```
PS D:\MAI-year2\os\os_lab4\build>bin/program1.exe
```

```
=== Program 1: Static Linking ===
```

```
Library linked at COMPILE TIME
```

```
Commands:
```

```
0 -Show info about current implementation
```

```
1 A B -Count primes between A and B
```

```
2 A B -Calculate area with sides A and B
```

```
help -Show this help
```

```
quit -Exit program
```

```
>1 35 92
```

```
PrimeCount(35,92) = 13
```

```
>2 5 16
```

```
Square(5,16) = 80
```

```
>quit
```

```
Goodbye!
```

```
PS D:\MAI-year2\os\os_lab4\build>bin/program2.exe
```

```
Successfully loaded Library 1 by default
```

```
=== Program 2: Dynamic Loading ===
```

```
Libraries loaded at RUNTIME
```

```
Current library: Library 1
```

```
Commands:
```

```
0 -Switch between Library 1 and Library 2
```

```
1 A B -Count primes between A and B
```

```
2 A B -Calculate area with sides A and B
```

```
help -Show this help
```

```
quit -Exit program
```

```
[Lib1] >1 24 89
```

```
PrimeCount(24,89) = 15
```

```
[Lib1] >2 4 20  
Square(4,20) = 80
```

```
[Lib1] >0  
Switched to Library 2  
PrimeCount: Sieve of Eratosthenes  
Square: Right triangle area ( $A \times B / 2$ )
```

```
[Lib2] >1 24 89  
PrimeCount(24,89) = 15
```

```
[Lib2] >2 4 20  
Square(4,20) = 40
```

```
[Lib2] >quit  
Goodbye!
```

Производительность

- **Время загрузки:** Программа №1 запускается быстрее, так как библиотека уже залинкована
- **Время выполнения функций:** Одинаково для обоих методов после загрузки библиотеки
- **Потребление памяти:**
 - Программа №1: больше памяти (код библиотеки в процессе)
 - Программа №2: меньше памяти (библиотека загружается при необходимости)
- **Алгоритмическая эффективность:**
 - Библиотека 1: $O(n^2)$ для PrimeCount, подходит для небольших n
 - Библиотека 2: $O(n \log \log n)$ для PrimeCount, эффективна для больших n

Выводы

В ходе выполнения лабораторной работы были успешно достигнуты поставленные цели:

1. **Освоены принципы создания динамических библиотек:** На практике реализованы две динамические библиотеки (DLL) с различными алгоритмами выполнения одинаковых контрактов. Изучены особенности экспорта функций через макросы `__declspec(dllexport)` и использование `extern "C"` для предотвращения декорирования имен в C++
2. **Освоено статическое использование библиотек:** Разработана программа №1, которая использует библиотеку на этапе компиляции. На практике применен процесс

статической линковки, когда код библиотеки включается в исполняемый файл. Изучены преимущества данного подхода: высокая производительность и отсутствие зависимостей во время выполнения

3. **Освоено динамическое использование библиотек:** Создана программа №2, которая загружает библиотеки во время выполнения через Windows API (`LoadLibraryW()`, `GetProcAddress()`, `FreeLibrary()`). Реализована возможность переключения между различными реализациями функций без перекомпиляции программы
4. **Реализована обработка системных ошибок:**
 - Обработка ошибок загрузки динамических библиотек
 - Контроль доступности экспортируемых функций
 - Валидация входных данных для математических функций
 - Корректное освобождение ресурсов при завершении работы

Сравнительный анализ методов использования библиотек

Работа продемонстрировала принципиальные различия между двумя подходами к использованию библиотек:

- **Статическая линковка (программа №1):**
 - Преимущества: высокая производительность, простота развертывания (один исполняемый файл), надежность
 - Недостатки: невозможность обновления библиотеки без перекомпиляции, больший размер исполняемого файла
 - Применение: когда требуется максимальная производительность и стабильность
- **Динамическая загрузка (программа №2):**
 - Преимущества: гибкость (возможность переключения реализаций), меньший размер исполняемого файла, возможность обновления без перекомпиляции
 - Недостатки: дополнительные накладные расходы на загрузку, зависимость от наличия DLL файлов, сложность отладки
 - Применение: плагиновая архитектура, системы с модульной структурой, когда требуется гибкость конфигурации

Алгоритмические аспекты

В ходе работы были реализованы и протестированы различные алгоритмы:

- **Наивный алгоритм проверки простоты чисел:** Прост в реализации, но имеет сложность $O(n^2)$, что делает его неэффективным для больших диапазонов
- **Алгоритм "Решето Эратосфена":** Более сложная реализация, но имеет сложность $O(n \log \log n)$, что значительно эффективнее для больших диапазонов
- **Геометрические вычисления:** Демонстрация полиморфизма через разные формулы для вычисления площади

Практическая ценность

Полученный опыт может быть применен при разработке:

- Модульных приложений с плагинной архитектурой
- Систем, требующих возможности "горячей" замены компонентов
- Кроссплатформенного ПО с поддержкой разных алгоритмов
- Библиотек для повторного использования кода

Лабораторная работа успешно продемонстрировала современные подходы к модульному программированию и показала важность правильного выбора архитектуры в зависимости от требований проекта.

Исходная программа

```
1 | #pragma once
2 |
3 | #if defined(_WIN32)
4 |     #ifdef MATHLIB_EXPORTS
5 |         #define PRIME_API __declspec(dllexport)
6 |     #else
7 |         #define PRIME_API __declspec(dllimport)
8 |     #endif
9 | #endif
10 |
11 | //      [A, B] (A, B - )
12 | extern "C"{
13 |     int PrimeCount(int A, int B);
14 | }
```

Листинг 1: *prime.h*

```
1 | #pragma once
2 |
3 | #if defined(_WIN32)
4 |     #ifdef MATHLIB_EXPORTS
5 |         #define PRIME_API __declspec(dllexport)
6 |     #else
7 |         #define PRIME_API __declspec(dllimport)
8 |     #endif
9 | #endif
10 |
11 | //
12 | extern "C"{
13 |     float Square(float A, float B) ;
14 | }
```

Листинг 2: *square.h*

```
1 | #include "prime.h"
2 |
3 | //
4 | int PrimeCount(int A, int B){
5 |     if (A > B) return 0;
6 |
7 |     int count = 0;
8 |     for(int i = A; i <= B; i++){
9 |         if (i <= 1) continue;
10 |
11 |         bool isPrime = true;
12 |         for(int j = 2; j * j <= i; j++){
13 |             if (i % j == 0){
14 |                 isPrime = false;
15 |                 break;
16 |             }
17 |         }
18 |
19 |         if (isPrime) count++;
```

```

20     }
21     return count;
22 }

```

Листинг 3: *prime_1.cpp*

```

1  #include "square.h"
2
3  // 1:
4  //  $S = A * B$ 
5  float Square(float A, float B) {
6      if (A <= 0 || B <= 0) return -1.0f;
7      return A * B;
8  }

```

Листинг 4: *square_1.cpp*

```

1  #include <cmath>
2  #include <vector>
3  #include "prime.h"
4
5  int PrimeCount(int A, int B){
6      std::vector<bool> prime(B + 1, true);
7      for (int p = 2; p * p <= B; p++) {
8          if (prime[p] == true) {
9              for (int i = p * p; i <= B; i += p)
10                 prime[i] = false;
11          }
12      }
13
14      int count;
15      for (int p = A; p <= B; p++){
16          if (prime[p]){
17              count ++;
18          }
19      }
20      return count;
21 }

```

Листинг 5: *prime_2.cpp*

```

1  #include "square.h"
2
3  // 2:
4  //  $S = (A * B) / 2$ 
5  float Square(float A, float B) {
6      if (A <= 0 || B <= 0) return -1.0f;
7      return (A * B) / 2.0f;
8  }

```

Листинг 6: *square_2.cpp*

```

1  #include <iostream>
2  #include <string>
3  #include <sstream>
4  #include <cstdlib>
5  #include "prime.h"
6  #include "square.h"
7
8  void printHelp() {
9      std::cout << "\n== Program 1: Static Linking ==> << std::endl;
10     std::cout << "Library linked at COMPILE TIME" << std::endl;
11     std::cout << "Commands:" << std::endl;
12     std::cout << " 0 - Show info about current implementation" << std::endl;
13     std::cout << " 1 A B - Count primes between A and B" << std::endl;
14     std::cout << " 2 A B - Calculate area with sides A and B" << std::endl;
15     std::cout << " help - Show this help" << std::endl;
16     std::cout << " quit - Exit program" << std::endl;
17 }
18
19 int main() {
20     printHelp();
21
22     std::string line;
23     while (true) {
24         std::cout << "\n> ";
25         std::getline(std::cin, line);
26
27         if (line.empty()) continue;
28
29         std::istringstream iss(line);
30         std::string command;
31         iss >> command;
32
33         if (command == "quit" || command == "exit" || command == "q") {
34             std::cout << "Goodbye!" << std::endl;
35             break;
36         }
37         else if (command == "help" || command == "h") {
38             printHelp();
39         }
40         else if (command == "0") {
41             std::cout << "Current implementation: Library 1" << std::endl;
42             std::cout << " PrimeCount: Naive algorithm (check all divisors)" << std::endl;
43             std::cout << " Square: Rectangle area (A B)" << std::endl;
44             std::cout << "Note: Cannot switch implementation - linked at compile time!" << std::endl;
45         }
46         else if (command == "1") {
47             int A, B;
48             if (iss >> A >> B) {
49                 int result = PrimeCount(A, B);
50                 std::cout << "PrimeCount(" << A << ", " << B << ") = " << result << std::endl;
51             } else {
52                 std::cout << "Error: Please provide two integers A and B" << std::endl;
53             }
54         }
55         else if (command == "2") {

```

```

56         float A, B;
57         if (iss >> A >> B) {
58             float result = Square(A, B);
59             if (result >= 0) {
60                 std::cout << "Square(" << A << ", " << B << ") = " << result << std
                    ::endl;
61             } else {
62                 std::cout << "Error: A and B must be positive numbers" << std::endl;
63             }
64         } else {
65             std::cout << "Error: Please provide two numbers A and B" << std::endl;
66         }
67     }
68     else {
69         std::cout << "Unknown command. Type 'help' for available commands." << std
            ::endl;
70     }
71 }
72
73 return 0;
74 }

```

Листинг 7: *program1/main.cpp*

```

1  #include <iostream>
2  #include <string>
3  #include <sstream>
4  #include <cstdlib>
5  #include <windows.h>
6
7  // Function pointer types matching contracts
8  typedef int (*PrimeCountFunc)(int, int);
9  typedef float (*SquareFunc)(float, float);
10
11 class DynamicLibrary {
12 private:
13     HMODULE handle;
14     std::string name;
15
16 public:
17     DynamicLibrary() : handle(nullptr) {}
18
19     ~DynamicLibrary() {
20         unload();
21     }
22
23     bool load(const std::string& libName) {
24         unload(); // Unload any previously loaded library
25         name = libName;
26         std::wstring wideLibName(libName.begin(), libName.end());
27         handle = LoadLibraryW(wideLibName.c_str());
28         if (!handle) {
29             DWORD error = GetLastError();
30             std::cerr << "Failed to load " << libName << " (Error: " << error << ")" <<
                std::endl;
31             return false;
32         }

```

```

33     return true;
34 }
35
36 void* getFunction(const std::string& funcName) {
37     if (!handle) return nullptr;
38     return reinterpret_cast<void*>(GetProcAddress(handle, funcName.c_str()));
39 }
40
41 void unload() {
42     if (handle) {
43         FreeLibrary(handle);
44         handle = nullptr;
45     }
46 }
47
48 bool isLoaded() const {
49     return handle != nullptr;
50 }
51
52 std::string getName() const {
53     return name;
54 }
55 };
56
57 void printHelp(int currentLib) {
58     std::cout << "\n== Program 2: Dynamic Loading ==> << std::endl;
59     std::cout << "Libraries loaded at RUNTIME" << std::endl;
60     std::cout << "Current library: " << (currentLib == 0 ? "None" :
61         currentLib == 1 ? "Library 1" : "Library 2") << std::endl;
62     std::cout << "Commands:" << std::endl;
63     std::cout << " 0 - Switch between Library 1 and Library 2" << std::endl;
64     std::cout << " 1 A B - Count primes between A and B" << std::endl;
65     std::cout << " 2 A B - Calculate area with sides A and B" << std::endl;
66     std::cout << " help - Show this help" << std::endl;
67     std::cout << " quit - Exit program" << std::endl;
68 }
69
70 int main() {
71     DynamicLibrary lib;
72     PrimeCountFunc PrimeCount = nullptr;
73     SquareFunc Square = nullptr;
74     int currentLib = 0; // 0 = none, 1 = lib1, 2 = lib2
75
76     // Library 1 by default
77     std::string defaultLib;
78     defaultLib = "mathlib1.dll";
79
80     if (lib.load(defaultLib)) {
81         PrimeCount = (PrimeCountFunc)lib.getFunction("PrimeCount");
82         Square = (SquareFunc)lib.getFunction("Square");
83
84         if (PrimeCount && Square) {
85             currentLib = 1;
86             std::cout << "Successfully loaded Library 1 by default" << std::endl;
87         } else {
88             std::cerr << "Error: Could not find required functions in the library" <<
89                 std::endl;
90             lib.unload();

```

```

90     }
91 }
92
93 printHelp(currentLib);
94
95 std::string line;
96 while (true) {
97     std::cout << "\n[" << (currentLib == 0 ? "No lib" :
98         currentLib == 1 ? "Lib1" : "Lib2") << "]" > ";
99     std::getline(std::cin, line);
100
101     if (line.empty()) continue;
102
103     std::istringstream iss(line);
104     std::string command;
105     iss >> command;
106
107     if (command == "quit" || command == "exit" || command == "q") {
108         std::cout << "Goodbye!" << std::endl;
109         break;
110     }
111     else if (command == "help" || command == "h") {
112         printHelp(currentLib);
113     }
114     else if (command == "0") {
115         // Switch library
116         lib.unload();
117         PrimeCount = nullptr;
118         Square = nullptr;
119
120         currentLib = (currentLib == 1) ? 2 : 1;
121         std::string libName;
122
123         libName = (currentLib == 1) ? "mathlib1.dll" : "mathlib2.dll";
124
125         if (lib.load(libName)) {
126             PrimeCount = (PrimeCountFunc)lib.getFunction("PrimeCount");
127             Square = (SquareFunc)lib.getFunction("Square");
128
129             if (PrimeCount && Square) {
130                 std::cout << "Switched to Library " << currentLib << std::endl;
131                 if (currentLib == 1) {
132                     std::cout << " PrimeCount: Naive algorithm" << std::endl;
133                     std::cout << " Square: Rectangle area (A B)" << std::endl;
134                 } else {
135                     std::cout << " PrimeCount: Sieve of Eratosthenes" << std::endl;
136                     std::cout << " Square: Right triangle area (A B / 2)" << std::endl;
137                 }
138             } else {
139                 std::cout << "Error: Functions not found in the library" << std::endl;
140                 currentLib = 0;
141             }
142         } else {
143             std::cout << "Error: Failed to load library. Make sure " << libName <<
144                 " exists." << std::endl;
145             currentLib = 0;

```



```

145     }
146 }
147 else if (command == "1") {
148     if (currentLib == 0) {
149         std::cout << "Error: No library loaded. Use command '0' to load a
150             library." << std::endl;
151         continue;
152     }
153     int A, B;
154     if (iss >> A >> B) {
155         if (PrimeCount) {
156             int result = PrimeCount(A, B);
157             std::cout << "PrimeCount(" << A << ", " << B << ") = " << result <<
158                 std::endl;
159         } else {
160             std::cout << "Error: PrimeCount function not available" << std::endl;
161         }
162     } else {
163         std::cout << "Error: Please provide two integers A and B" << std::endl;
164     }
165 } else if (command == "2") {
166     if (currentLib == 0) {
167         std::cout << "Error: No library loaded. Use command '0' to load a
168             library." << std::endl;
169         continue;
170     }
171     float A, B;
172     if (iss >> A >> B) {
173         if (Square) {
174             float result = Square(A, B);
175             if (result >= 0) {
176                 std::cout << "Square(" << A << ", " << B << ") = " << result <<
177                     std::endl;
178             } else {
179                 std::cout << "Error: A and B must be positive numbers" << std::
180                     endl;
181             }
182         } else {
183             std::cout << "Error: Square function not available" << std::endl;
184         }
185     } else {
186         std::cout << "Error: Please provide two numbers A and B" << std::endl;
187     }
188 } else {
189     std::cout << "Unknown command. Type 'help' for available commands." << std
190         ::endl;
191 }
192 lib.unload();
193 return 0;

```

Системные вызовы program 1

```
"Time of Day","Process Name","PID","Operation","Path","Result","Detail"
"16:22:38,3711453","program1.exe","29340","Process Start","", "SUCCESS","Parent
PID: 16344,Command line: ""D:\MAI-year2\os\os_lab4\build\bin\program1.exe"",Current
directory: D:\MAI-year2\os\os_lab4\build\,Environment:
; ALLUSERSPROFILE=C:\ProgramData
; APPDATA=C:\Users\Maya SOATIANA\AppData\Roaming
; ChocolateyInstall=C:\ProgramData\chocolatey
; ChocolateyLastPathUpdate=133772060459044552
; CHROME_CRASHPAD_PIPE_NAME=\\.\pipe\crashpad_26148_ULALDOXBNHXMCSJO
; CLASSPATH=.;D:\app\MayaSOATIANA\product\11.2.0\dbhome_1\jdbc\lib\ojdbc6.jar;D:\Pilo
Files\Java\jdk-17\bin;
; CommonProgramFiles=C:\Program Files\Common Files
; CommonProgramFiles(x86)=C:\Program Files (x86)\Common Files
; CommonProgramW6432=C:\Program Files\Common Files
; COMPUTERNAME=DESKTOP-PDVOEPV
; ComSpec=C:\WINDOWS\system32\cmd.exe
; DriverData=C:\Windows\System32\Drivers\DriverData
; EFC_25612_1262719628=1
; EFC_25612_1592913036=1
; EFC_25612_2283032206=1
; EFC_25612_2775293581=1
; EFC_25612_3789132940=1
; FPS_BROWSER_APP_PROFILE_STRING=Internet Explorer
; FPS_BROWSER_USER_PROFILE_STRING=Default
; GNUPLOT_LIB=C:\Program Files\gnuplot\demo;C:\Program Files\gnuplot\demo\games;C:\Pr
Files\gnuplot\share
; HOMEDRIVE=C:
; HOMEPATH=\Users\Maya SOATIANA
; JAVA_HOME=C:\Program Files\Java\jdk-17
; LOCALAPPDATA=C:\Users\Maya SOATIANA\AppData\Local
; LOGONSERVER=\\DESKTOP-PDVOEPV
; MOZ_PLUGIN_PATH=C:\Program Files (x86)\Foxit Software\Foxit Reader\plugins\
; NUMBER_OF_PROCESSORS=8
; OneDrive=C:\Users\Maya SOATIANA\OneDrive
; ORIGINAL_XDG_CURRENT_DESKTOP=undefined
; OS=Windows_NT
; Path=c:\Users\Maya SOATIANA\AppData\Roaming\Code\User\globalStorage\github.copilot-
SOATIANA\AppData\Roaming\Code\User\globalStorage\github.copilot-chat\copilotCli;C:\Pr
Files (x86)\VMware\VMware Workstation\bin\;C:\Program Files\Common Files\Oracle\Java\
Files (x86)\Common Files\Oracle\Java\javapath;D:\app\MayaSOATIANA\product\11.2.0\dbho
Files\Java\jdk1.8.0_361\bin;C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\Wbem;C
Files\Eclipse Adoptium\jdk-17.0.7-hotspot\bin;C:\gcc14\mingw64\bin;C:\Program
```

```

Files\dotnet\;C:\Program Files\Microsoft SQL Server\150\Tools\Binn\;C:\Program
Files\Microsoft SQL Server\Client SDK\ODBC\170\Tools\Binn\;C:\Program Files\gnuplot\b
Files\Git\cmd;C:\ProgramData\chocolatey\bin;C:\Windows\System32\OpenSSH\;C:\Program
Files\Python310;C:\Program Files\Python310\Scripts\;C:\Users\Maya SOATIANA\AppData\Ro
Files\Docker\Docker\resources\bin;C:\Program Files\swipl\bin;;C:\WINDOWS\System32\Ope
SOATIANA\AppData\Local\Microsoft\WindowsApps;C:\Users\Maya SOATIANA\AppData\Local\Pro
VS Code\bin;C:\Users\Maya SOATIANA\.dotnet\tools;C:\Users\Maya SOATIANA\AppData\Local
Files\JetBrains\PyCharm 2025.1.1.1\bin;;D:\swipl\bin;C:\Program Files\swipl\bin;
; PATHEXT=.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH;.MSC;.CPL
; PROCESSOR_ARCHITECTURE=AMD64
; PROCESSOR_IDENTIFIER=Intel64 Family 6 Model 140 Stepping 1,GenuineIntel
; PROCESSOR_LEVEL=6
; PROCESSOR_REVISION=8c01
; ProgramData=C:\ProgramData
; ProgramFiles=C:\Program Files
; ProgramFiles(x86)=C:\Program Files (x86)
; ProgramW6432=C:\Program Files
; PSModulePath=C:\Users\Maya SOATIANA\Documents\WindowsPowerShell\Modules;C:\Program
Files\WindowsPowerShell\Modules;C:\WINDOWS\system32\WindowsPowerShell\v1.0\Modules
; PUBLIC=C:\Users\Public
; PyCharm=C:\Program Files\JetBrains\PyCharm 2025.1.1.1\bin;
; SESSIONNAME=Console
; SystemDrive=C:
; SystemRoot=C:\WINDOWS
; TEMP=C:\Users\MAYASO~1\AppData\Local\Temp
; TMP=C:\Users\MAYASO~1\AppData\Local\Temp
; USERDOMAIN=DESKTOP-PDVOEPV
; USERDOMAIN_ROAMINGPROFILE=DESKTOP-PDVOEPV
; USERNAME=Maya SOATIANA
; USERPROFILE=C:\Users\Maya SOATIANA
; windir=C:\WINDOWS
; ZES_ENABLE_SYSMAN=1
; TERM_PROGRAM=vscode
; TERM_PROGRAM_VERSION=1.106.3
; LANG=en_US.UTF-8
; COLORTERM=truecolor
; GIT_ASKPASS=c:\Users\Maya "
"16:22:38,3714731","program1.exe","29340","Thread Create","","","SUCCESS","Thread
ID: 24652"
"16:22:38,3869956","program1.exe","29340","FileSystemControl","D:\MAI-year2\os\os_lab
DEVICE REQUEST","Control: 0x90390 (Device:0x9 Function:228 Method: 0)"
"16:22:38,3870550","program1.exe","29340","QueryBasicInformationFile","D:\MAI-year2\o
08/12/2025 15:12:06,LastAccessTime: 08/12/2025 16:22:38,LastWriteTime: 08/12/2025
15:12:06,ChangeTime: 08/12/2025 15:12:06,FileAttributes: A"
"16:22:38,3871068","program1.exe","29340","FileSystemControl","D:\MAI-year2\os\os_lab
DEVICE REQUEST","Control: 0x90390 (Device:0x9 Function:228 Method: 0)"
"16:22:38,3871356","program1.exe","29340","QueryAttributeInformationVolume","D:\MAI-y
Case Preserved,Case Sensitive,Unicode,ACLs,Compression,Named Streams,EFS,Object

```

IDs, Reparse Points, Sparse Files, Quotas, Transactions, 0x3c02e00, MaximumComponentNameLen, 255, FileSystemName: NTFS"

"16:22:38,3872640", "program1.exe", "29340", "CreateFile", "D:\MAI-year2\os\os_lab4\build\Access: Read Attributes, Synchronize, Disposition: Open, Options: Synchronous IO Non-Alert, Non-Directory File, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a, OpenResult: Opened"

"16:22:38,3874070", "program1.exe", "29340", "CloseFile", "D:\MAI-year2\os\os_lab4\build\Access: Read Attributes, Synchronize, Disposition: Open, Options: Synchronous IO Non-Alert, Non-Directory File, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a, OpenResult: Opened"

"16:22:38,3874799", "program1.exe", "29340", "QueryStreamInformationFile", "D:\MAI-year2\os\os_lab4\build\Access: Read Attributes, Synchronize, Disposition: Open, Options: Synchronous IO Non-Alert, Non-Directory File, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a, OpenResult: Opened"

"16:22:38,3875307", "program1.exe", "29340", "FileSystemControl", "D:\MAI-year2\os\os_lab4\build\Access: Read Attributes, Synchronize, Disposition: Open, Options: Synchronous IO Non-Alert, Non-Directory File, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a, OpenResult: Opened"

"16:22:38,3876419", "program1.exe", "29340", "Load Image", "D:\MAI-year2\os\os_lab4\build\Access: Read Attributes, Synchronize, Disposition: Open, Options: Synchronous IO Non-Alert, Non-Directory File, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a, OpenResult: Opened"

"16:22:38,3879213", "program1.exe", "29340", "Load Image", "C:\Windows\System32\ntdll.dll", "Base: 0x7ff7ebc00000, Image Size: 0x18000"

"16:22:38,3879213", "program1.exe", "29340", "Load Image", "C:\Windows\System32\ntdll.dll", "Base: 0x7fff687e0000, Image Size: 0x268000"

"16:22:38,3880557", "program1.exe", "29340", "CreateFile", "C:\Windows\Prefetch\PROGRAM1.EXE", "Access: Generic Read, Disposition: Open, Options: Synchronous IO Non-Alert, Attributes: n/a, ShareMode: None, AllocationSize: n/a, OpenResult: Opened"

"16:22:38,3881654", "program1.exe", "29340", "QueryStandardInformationFile", "C:\Windows\Prefetch\PROGRAM1.EXE", "4096, EndOfFile: 2365, NumberOfLinks: 1, DeletePending: False, Directory: False"

"16:22:38,3882115", "program1.exe", "29340", "ReadFile", "C:\Windows\Prefetch\PROGRAM1.EXE", "0, Length: 2365, Priority: Normal"

"16:22:38,3883308", "program1.exe", "29340", "CloseFile", "C:\Windows\Prefetch\PROGRAM1.EXE", "Access: Read"

"16:22:38,3966157", "program1.exe", "29340", "RegOpenKey", "HKLM\System\CurrentControlSet\Control\FileSystem", "Access: Read"

"16:22:38,3966971", "program1.exe", "29340", "RegOpenKey", "HKLM\System\CurrentControlSet\Control\FileSystem", "Access: Read"

"16:22:38,3967434", "program1.exe", "29340", "RegQueryValue", "HKLM\System\CurrentControlSet\Control\FileSystem", "REG_SZ, Length: 12, Data: 65001"

"16:22:38,3968100", "program1.exe", "29340", "RegQueryValue", "HKLM\System\CurrentControlSet\Control\FileSystem", "REG_SZ, Length: 12, Data: 65001"

"16:22:38,3968592", "program1.exe", "29340", "RegCloseKey", "HKLM\System\CurrentControlSet\Control\FileSystem", "Access: Read"

"16:22:38,3969952", "program1.exe", "29340", "RegOpenKey", "HKLM\System\CurrentControlSet\Control\FileSystem", "Manager", "REPARSE", "Desired Access: Query Value"

"16:22:38,3970585", "program1.exe", "29340", "RegOpenKey", "HKLM\System\CurrentControlSet\Control\FileSystem", "Manager", "SUCCESS", "Desired Access: Query Value"

"16:22:38,3971774", "program1.exe", "29340", "RegQueryValue", "HKLM\System\CurrentControlSet\Control\FileSystem", "Manager\RaiseExceptionOnPossibleDeadlock", "NAME NOT FOUND", "Length: 80"

"16:22:38,3972504", "program1.exe", "29340", "RegCloseKey", "HKLM\System\CurrentControlSet\Control\FileSystem", "Manager", "SUCCESS", ""

"16:22:38,3973113", "program1.exe", "29340", "RegOpenKey", "HKLM\SYSTEM\CurrentControlSet\Control\FileSystem", "Manager\Segment Heap", "REPARSE", "Desired Access: Query Value"

"16:22:38,3973999", "program1.exe", "29340", "RegOpenKey", "HKLM\System\CurrentControlSet\Control\FileSystem", "Manager\Segment Heap", "NAME NOT FOUND", "Desired Access: Query Value"

"16:22:38,3975281", "program1.exe", "29340", "RegOpenKey", "HKLM\Software\Microsoft\Windows NT\CurrentVersion\Image File Execution Options", "SUCCESS", "Desired Access: Query Value, Enumerate Sub Keys"

"16:22:38,3976389", "program1.exe", "29340", "RegOpenKey", "HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Image File Execution Options", "SUCCESS", "Desired Access: Query Value, Enumerate Sub Keys"

NT\CurrentVersion\Image File Execution Options\program1.exe","NAME NOT FOUND","Desired
Access: Query Value,Enumerate Sub Keys"
"16:22:38,3982129","program1.exe","29340","RegQueryValue","HKLM\System\CurrentControl
TOO SMALL","Length: 0"
"16:22:38,3982507","program1.exe","29340","RegQueryValue","HKLM\System\CurrentControl
REG_BINARY,Length: 72,Data: 01 00 04 80 00 00 00 00 00 00 00 00 00 00 00 00"
"16:22:38,3986872","program1.exe","29340","CreateFile","D:\MAI-year2\os\os_lab4\build
Access: Execute/Traverse,Synchronize,Disposition: Open,Options: Directory,Synchronous
IO Non-Alert,Attributes: n/a,ShareMode: Read,Write,AllocationSize: n/a,OpenResult:
Opened"
"16:22:38,3991508","program1.exe","29340","Load Image","C:\Windows\System32\kernel32.
Base: 0x7fff67890000,Image Size: 0xc9000"
"16:22:38,3995238","program1.exe","29340","Load Image","C:\Windows\System32\KernelBas
Base: 0x7fff65a20000,Image Size: 0x3f8000"
"16:22:38,4020698","program1.exe","29340","RegOpenKey","HKLM\System\CurrentControlSet
Access: Read"
"16:22:38,4022907","program1.exe","29340","RegOpenKey","HKLM\System\CurrentControlSet
NOT FOUND","Desired Access: Read"
"16:22:38,4026098","program1.exe","29340","RegOpenKey","HKLM\System\CurrentControlSet
Server","REPARSE","Desired Access: Read"
"16:22:38,4027611","program1.exe","29340","RegOpenKey","HKLM\System\CurrentControlSet
Server","SUCCESS","Desired Access: Read"
"16:22:38,4028168","program1.exe","29340","RegQueryValue","HKLM\System\CurrentControl
Server\TSAppCompat","NAME NOT FOUND","Length: 548"
"16:22:38,4028519","program1.exe","29340","RegQueryValue","HKLM\System\CurrentControl
Server\TSUserEnabled","SUCCESS","Type: REG_DWORD,Length: 4,Data: 0"
"16:22:38,4029045","program1.exe","29340","RegCloseKey","HKLM\System\CurrentControlSe
Server","SUCCESS",""
"16:22:38,4032356","program1.exe","29340","RegOpenKey","HKLM\System\CurrentControlSet
Access: Query Value,Set Value"
"16:22:38,4032923","program1.exe","29340","RegOpenKey","HKLM\System\CurrentControlSet
NOT FOUND","Desired Access: Query Value,Set Value"
"16:22:38,4033742","program1.exe","29340","RegOpenKey","HKLM\System\CurrentControlSet
Access: Read"
"16:22:38,4035037","program1.exe","29340","RegOpenKey","HKLM\System\CurrentControlSet
NOT FOUND","Desired Access: Read"
"16:22:38,4035672","program1.exe","29340","RegOpenKey","HKLM\Software\Policies\Micros
Access: Query Value"
"16:22:38,4036500","program1.exe","29340","RegQueryValue","HKLM\SOFTWARE\Policies\Mic
NOT FOUND","Length: 80"
"16:22:38,4036899","program1.exe","29340","RegCloseKey","HKLM\SOFTWARE\Policies\Micro
"16:22:38,4037674","program1.exe","29340","RegOpenKey","HKCU\Software\Policies\Micros
NOT FOUND","Desired Access: Query Value"
"16:22:38,4038904","program1.exe","29340","RegOpenKey","HKLM\System\CurrentControlSet
Access: Read"
"16:22:38,4039461","program1.exe","29340","RegOpenKey","HKLM\System\CurrentControlSet
Access: Read"
"16:22:38,4040005","program1.exe","29340","RegQueryValue","HKLM\System\CurrentControl

REG_DWORD,Length: 4,Data: 1"
"16:22:38,4041086","program1.exe","29340","RegQueryValue","HKLM\System\CurrentControl
NOT FOUND","Length: 20"
"16:22:38,4041667","program1.exe","29340","RegCloseKey","HKLM\System\CurrentControlSe
"16:22:38,4050115","program1.exe","29340","Thread Create","", "SUCCESS", "Thread
ID: 25408"
"16:22:38,4052130","program1.exe","29340","Load Image","C:\Windows\System32\ucrtbase.
Base: 0x7fff662c0000,Image Size: 0x14b000"
"16:22:38,4053374","program1.exe","29340","Thread Create","", "SUCCESS", "Thread
ID: 26876"
"16:22:38,4053779","program1.exe","29340","RegOpenKey","HKLM\System\CurrentControlSet
Manager","REPARSE","Desired Access: Query Value"
"16:22:38,4054261","program1.exe","29340","RegOpenKey","HKLM\System\CurrentControlSet
Manager","SUCCESS","Desired Access: Query Value"
"16:22:38,4054570","program1.exe","29340","RegQueryValue","HKLM\System\CurrentControl
Manager\SafeDllSearchMode","NAME NOT FOUND","Length: 16"
"16:22:38,4054753","program1.exe","29340","Thread Create","", "SUCCESS", "Thread
ID: 7148"
"16:22:38,4057061","program1.exe","29340","QueryOpen","D:\MAI-year2\os\os_lab4\build\
NOT FOUND", ""
"16:22:38,4057085","program1.exe","29340","QueryOpen","D:\MAI-year2\os\os_lab4\build\
NOT FOUND", ""
"16:22:38,4057602","program1.exe","29340","QueryOpen","D:\MAI-year2\os\os_lab4\build\
08/12/2025 15:12:06,LastAccessTime: 08/12/2025 16:19:46,LastWriteTime: 08/12/2025
15:12:06,ChangeTime: 08/12/2025 15:12:06,AllocationSize: 57344,EndOfFile: 54995,FileA
A"
"16:22:38,4059549","program1.exe","29340","CreateFile","D:\MAI-year2\os\os_lab4\build
Access: Read Data/List Directory,Execute/Traverse,Synchronize,Disposition:
Open,Options: Synchronous IO Non-Alert,Non-Directory File,Attributes: n/a,ShareMode:
Read,Delete,AllocationSize: n/a,OpenResult: Opened"
"16:22:38,4060312","program1.exe","29340","FileSystemControl","D:\MAI-year2\os\os_lab
DEVICE REQUEST","Control: 0x90390 (Device:0x9 Function:228 Method: 0)"
"16:22:38,4060995","program1.exe","29340","QueryBasicInformationFile","D:\MAI-year2\o
08/12/2025 15:12:06,LastAccessTime: 08/12/2025 16:19:46,LastWriteTime: 08/12/2025
15:12:06,ChangeTime: 08/12/2025 15:12:06,FileAttributes: A"
"16:22:38,4061509","program1.exe","29340","FileSystemControl","D:\MAI-year2\os\os_lab
DEVICE REQUEST","Control: 0x90390 (Device:0x9 Function:228 Method: 0)"
"16:22:38,4061793","program1.exe","29340","QueryAttributeInformationVolume","D:\MAI-y
Case Preserved,Case Sensitive,Unicode,ACLs,Compression,Named Streams,EFS,Object
IDs,Reparse Points,Sparse Files,Quotas,Transactions,0x3c02e00,MaximumComponentNameLen,
255,FileSystemName: NTFS"
"16:22:38,4062981","program1.exe","29340","CreateFileMapping","D:\MAI-year2\os\os_lab
LOCKED WITH ONLY READERS","SyncType: SyncTypeCreateSection,PageProtection:
PAGE_EXECUTE|PAGE_NOCACHE"
"16:22:38,4063691","program1.exe","29340","CreateFileMapping","D:\MAI-year2\os\os_lab
SyncTypeOther"
"16:22:38,4064917","program1.exe","29340","FileSystemControl","D:\MAI-year2\os\os_lab
DEVICE REQUEST","Control: 0x90390 (Device:0x9 Function:228 Method: 0)"

"16:22:38,4065206","program1.exe","29340","QueryBasicInformationFile","D:\MAI-year2\os\os_lab4\build\program1.exe",08/12/2025 15:12:06,LastAccessTime: 08/12/2025 16:19:46,LastWriteTime: 08/12/2025 15:12:06,ChangeTime: 08/12/2025 15:12:06,FileAttributes: A"

"16:22:38,4065664","program1.exe","29340","FileSystemControl","D:\MAI-year2\os\os_lab4\build\program1.exe",DEVICE REQUEST,"Control: 0x90390 (Device:0x9 Function:228 Method: 0)"

"16:22:38,4065928","program1.exe","29340","QueryAttributeInformationVolume","D:\MAI-year2\os\os_lab4\build\program1.exe",Case Preserved,Case Sensitive,Unicode,ACLs,Compression,Named Streams,EFS,Object IDs,Reparse Points,Sparse Files,Quotas,Transactions,0x3c02e00,MaximumComponentNameLength: 255,FileSystemName: NTFS"

"16:22:38,4067682","program1.exe","29340","CreateFile","D:\MAI-year2\os\os_lab4\build\program1.exe",Access: Read Attributes,Synchronize,Disposition: Open,Options: Synchronous,IO Non-Alert,Non-Directory File,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a,OpenResult: Opened"

"16:22:38,4068430","program1.exe","29340","CloseFile","D:\MAI-year2\os\os_lab4\build\program1.exe"

"16:22:38,4069317","program1.exe","29340","QueryStreamInformationFile","D:\MAI-year2\os\os_lab4\build\program1.exe",:\$DATA"

"16:22:38,4069798","program1.exe","29340","FileSystemControl","D:\MAI-year2\os\os_lab4\build\program1.exe",FSCTL_READ_FILE_USN_DATA"

"16:22:38,4070634","program1.exe","29340","Load Image","D:\MAI-year2\os\os_lab4\build\program1.exe",Base: 0x7fff5e400000,Image Size: 0x16000"

"16:22:38,4071616","program1.exe","29340","CloseFile","D:\MAI-year2\os\os_lab4\build\program1.exe"

"16:22:38,4071967","program1.exe","29340","CreateFile","C:\Windows\System32\libstdc++-6.dll",NOT FOUND,"Desired Access: Read Attributes,Disposition: Open,Options: Open,Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:22:38,4074625","program1.exe","29340","CreateFile","C:\Windows\System32\libgcc_s_seh-1.dll",NOT FOUND,"Desired Access: Read Attributes,Disposition: Open,Options: Open,Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:22:38,4074805","program1.exe","29340","CreateFile","C:\Windows\System\libstdc++-6.dll",NOT FOUND,"Desired Access: Read Attributes,Disposition: Open,Options: Open,Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:22:38,4077403","program1.exe","29340","CreateFile","C:\Windows\libstdc++-6.dll",NOT FOUND,"Desired Access: Read Attributes,Disposition: Open,Options: Open,Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:22:38,4077576","program1.exe","29340","CreateFile","C:\Windows\System\libgcc_s_seh-1.dll",NOT FOUND,"Desired Access: Read Attributes,Disposition: Open,Options: Open,Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:22:38,4078589","program1.exe","29340","QueryOpen","D:\MAI-year2\os\os_lab4\build\program1.exe",NOT FOUND,""

"16:22:38,4081404","program1.exe","29340","CreateFile","C:\Windows\libgcc_s_seh-1.dll",NOT FOUND,"Desired Access: Read Attributes,Disposition: Open,Options: Open,Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:22:38,4082888","program1.exe","29340","QueryOpen","D:\MAI-year2\os\os_lab4\build\program1.exe",NOT FOUND,""

NOT FOUND", ""

"16:22:38,4083206", "program1.exe", "29340", "CreateFile", "C:\Users\Maya SOATIANA\AppData
NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open
Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize:
n/a"

"16:22:38,4087792", "program1.exe", "29340", "CreateFile", "C:\Users\Maya SOATIANA\AppData
NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open
Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize:
n/a"

"16:22:38,4088383", "program1.exe", "29340", "CreateFile", "C:\Users\Maya SOATIANA\AppData
NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open
Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize:
n/a"

"16:22:38,4089501", "program1.exe", "29340", "CreateFile", "C:\Program Files (x86)\VMware
Workstation\bin\libstdc++-6.dll", "NAME NOT FOUND", "Desired Access: Read Attributes, Di
Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, Allocat
n/a"

"16:22:38,4090357", "program1.exe", "29340", "CreateFile", "C:\Users\Maya SOATIANA\AppData
NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open
Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize:
n/a"

"16:22:38,4091444", "program1.exe", "29340", "CreateFile", "C:\Program Files\Common
Files\Oracle\Java\javapath_target_22748625\libstdc++-6.dll", "REPARSE", "Desired
Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes:
n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a, OpenResult: <unknown>"

"16:22:38,4092295", "program1.exe", "29340", "CreateFile", "C:\Program Files (x86)\VMware
Workstation\bin\libgcc_s_seh-1.dll", "NAME NOT FOUND", "Desired Access: Read
Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode:
Read, Write, Delete, AllocationSize: n/a"

"16:22:38,4093852", "program1.exe", "29340", "CreateFile", "C:\Program Files\Common
Files\Oracle\Java\javapath_target_22748625\libstdc++-6.dll", "NAME NOT FOUND", "Desired
Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes:
n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a"

"16:22:38,4095069", "program1.exe", "29340", "CreateFile", "C:\Program Files\Common
Files\Oracle\Java\javapath_target_22748625\libgcc_s_seh-1.dll", "REPARSE", "Desired
Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes:
n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a, OpenResult: <unknown>"

"16:22:38,4096175", "program1.exe", "29340", "CreateFile", "C:\Program Files (x86)\Common
Files\Oracle\Java\javapath_target_91359062\libstdc++-6.dll", "REPARSE", "Desired
Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes:
n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a, OpenResult: <unknown>"

"16:22:38,4097206", "program1.exe", "29340", "CreateFile", "C:\Program Files\Common
Files\Oracle\Java\javapath_target_22748625\libgcc_s_seh-1.dll", "NAME NOT FOUND", "Desi
Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes:
n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a"

"16:22:38,4098959", "program1.exe", "29340", "CreateFile", "C:\Program Files (x86)\Common
Files\Oracle\Java\javapath_target_91359062\libstdc++-6.dll", "NAME NOT FOUND", "Desired
Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes:

n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"
"16:22:38,4100189","program1.exe","29340","QueryOpen","D:\app\MayaSOATIANA\product\11
NOT FOUND", ""
"16:22:38,4100209","program1.exe","29340","CreateFile","C:\Program Files (x86)\Common
Files\Oracle\Java\javapath_target_91359062\libgcc_s_seh-1.dll","REPARSE","Desired
Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes:
n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a,OpenResult: <unknown>"
"16:22:38,4102558","program1.exe","29340","CreateFile","C:\Program Files\Java\jdk1.8.
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"
"16:22:38,4102851","program1.exe","29340","CreateFile","C:\Program Files (x86)\Common
Files\Oracle\Java\javapath_target_91359062\libgcc_s_seh-1.dll","NAME NOT FOUND","Desi
Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes:
n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"
"16:22:38,4103977","program1.exe","29340","QueryOpen","D:\app\MayaSOATIANA\product\11
NOT FOUND", ""
"16:22:38,4106356","program1.exe","29340","CreateFile","C:\Program Files\Java\jdk1.8.
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"
"16:22:38,4109479","program1.exe","29340","CreateFile","C:\Windows\System32\libstdc++
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"
"16:22:38,4111708","program1.exe","29340","CreateFile","C:\Windows\System32\libgcc_s.
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"
"16:22:38,4112646","program1.exe","29340","CreateFile","C:\Windows\libstdc++-6.dll", "
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"
"16:22:38,4114529","program1.exe","29340","CreateFile","C:\Windows\System32\wbem\libs
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"
"16:22:38,4115022","program1.exe","29340","CreateFile","C:\Windows\libgcc_s_seh-1.dll
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"
"16:22:38,4116249","program1.exe","29340","CreateFile","C:\Windows\System32\WindowsPo
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"
"16:22:38,4117527","program1.exe","29340","CreateFile","C:\Windows\System32\wbem\libg
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:

n/a"

"16:22:38,4122122","program1.exe","29340","CreateFile","C:\Windows\System32\WindowsPo
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"

"16:22:38,4122888","program1.exe","29340","CreateFile","C:\WINDOWS\System32\OpenSSH\:
Files\Eclipse Adoptium\jdk-17.0.7-hotspot\bin\libstdc++-6.dll","NAME INVALID","Desi
Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes:
n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:22:38,4124238","program1.exe","29340","CreateFile","C:\WINDOWS\System32\OpenSSH\:
Files\Eclipse Adoptium\jdk-17.0.7-hotspot\bin\libgcc_s_seh-1.dll","NAME INVALID","D
Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes:
n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:22:38,4125362","program1.exe","29340","CreateFile","C:\gcc14\mingw64\bin\libstdc+
Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes:
n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a,OpenResult: Opened"

"16:22:38,4126271","program1.exe","29340","QueryBasicInformationFile","C:\gcc14\mingw
12/05/2024 09:28:28,LastAccessTime: 08/12/2025 16:19:46,LastWriteTime: 13/09/2025
16:40:12,ChangeTime: 13/09/2025 16:40:12,FileAttributes: A"

"16:22:38,4126870","program1.exe","29340","CloseFile","C:\gcc14\mingw64\bin\libstdc++

"16:22:38,4127167","program1.exe","29340","CreateFile","C:\gcc14\mingw64\bin\libgcc_s.
Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes:
n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a,OpenResult: Opened"

"16:22:38,4127967","program1.exe","29340","QueryBasicInformationFile","C:\gcc14\mingw
12/05/2024 09:28:28,LastAccessTime: 08/12/2025 16:19:46,LastWriteTime: 13/09/2025
16:40:11,ChangeTime: 13/09/2025 16:40:11,FileAttributes: A"

"16:22:38,4128471","program1.exe","29340","CloseFile","C:\gcc14\mingw64\bin\libgcc_s_

"16:22:38,4128552","program1.exe","29340","CreateFile","C:\gcc14\mingw64\bin\libstdc+
Access: Read Data/List Directory,Execute/Traverse,Synchronize,Disposition:
Open,Options: Synchronous IO Non-Alert,Non-Directory File,Attributes: n/a,ShareMode:
Read,Delete,AllocationSize: n/a,OpenResult: Opened"

"16:22:38,4130508","program1.exe","29340","QueryEAFile","C:\gcc14\mingw64\bin\libstdc

"16:22:38,4130612","program1.exe","29340","CreateFile","C:\gcc14\mingw64\bin\libgcc_s.
Access: Read Data/List Directory,Execute/Traverse,Synchronize,Disposition:
Open,Options: Synchronous IO Non-Alert,Non-Directory File,Attributes: n/a,ShareMode:
Read,Delete,AllocationSize: n/a,OpenResult: Opened"

"16:22:38,4131583","program1.exe","29340","QueryEAFile","C:\gcc14\mingw64\bin\libgcc_

"16:22:38,4132232","program1.exe","29340","CreateFileMapping","C:\gcc14\mingw64\bin\l
LOCKED WITH ONLY READERS","SyncType: SyncTypeCreateSection,PageProtection:
PAGE_EXECUTE|PAGE_NOCACHE"

"16:22:38,4132508","program1.exe","29340","CreateFileMapping","C:\gcc14\mingw64\bin\l
LOCKED WITH ONLY READERS","SyncType: SyncTypeCreateSection,PageProtection:
PAGE_EXECUTE|PAGE_NOCACHE"

"16:22:38,4133831","program1.exe","29340","CreateFileMapping","C:\gcc14\mingw64\bin\l
SyncTypeOther"

"16:22:38,4133914","program1.exe","29340","CreateFileMapping","C:\gcc14\mingw64\bin\l
SyncTypeOther"

"16:22:38,4135448","program1.exe","29340","QueryEAFile","C:\gcc14\mingw64\bin\libgcc_

"16:22:38,4135511","program1.exe","29340","QueryEaFile","C:\gcc14\mingw64\bin\libstdc++
"16:22:38,4138075","program1.exe","29340","CreateFile","C:\gcc14\mingw64\bin\libgcc_s-1_0_0.dll"
Access: Read Attributes,Synchronize,Disposition: Open,Options: Synchronous
IO Non-Alert,Non-Directory File,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a,OpenResult: Opened"
"16:22:38,4139064","program1.exe","29340","CloseFile","C:\gcc14\mingw64\bin\libgcc_s-1_0_0.dll"
"16:22:38,4139418","program1.exe","29340","CreateFile","C:\gcc14\mingw64\bin\libstdc++
Access: Read Attributes,Synchronize,Disposition: Open,Options: Synchronous
IO Non-Alert,Non-Directory File,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a,OpenResult: Opened"
"16:22:38,4140779","program1.exe","29340","CloseFile","C:\gcc14\mingw64\bin\libstdc++
"16:22:38,4141206","program1.exe","29340","QueryStreamInformationFile","C:\gcc14\mingw64\bin\libstdc++
:: \$DATA,1: :Zone.Identifier:\$DATA"
"16:22:38,4141974","program1.exe","29340","FileSystemControl","C:\gcc14\mingw64\bin\libstdc++
FSCTL_READ_FILE_USN_DATA"
"16:22:38,4142237","program1.exe","29340","QueryStreamInformationFile","C:\gcc14\mingw64\bin\libstdc++
:: \$DATA,1: :Zone.Identifier:\$DATA"
"16:22:38,4142810","program1.exe","29340","FileSystemControl","C:\gcc14\mingw64\bin\libstdc++
FSCTL_READ_FILE_USN_DATA"
"16:22:38,4143070","program1.exe","29340","Load Image","C:\gcc14\mingw64\bin\libgcc_s-1_0_0.dll"
Base: 0x7fff40aa0000,Image Size: 0xd4000"
"16:22:38,4143583","program1.exe","29340","Load Image","C:\gcc14\mingw64\bin\libstdc++
Base: 0x7fff40b80000,Image Size: 0x248000"
"16:22:38,4144482","program1.exe","29340","CloseFile","C:\gcc14\mingw64\bin\libgcc_s-1_0_0.dll"
"16:22:38,4145188","program1.exe","29340","CloseFile","C:\gcc14\mingw64\bin\libstdc++
"16:22:38,4146035","program1.exe","29340","QueryOpen","D:\MAI-year2\os\os_lab4\build\bin\program1.exe"
NOT FOUND",""
"16:22:38,4147606","program1.exe","29340","QueryOpen","D:\MAI-year2\os\os_lab4\build\bin\program1.exe"
NOT FOUND",""
"16:22:38,4161041","program1.exe","29340","CreateFile","C:\Windows\System32\libmcfghthread.dll"
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"
"16:22:38,4162626","program1.exe","29340","CreateFile","C:\Windows\System32\libmcfghthread.dll"
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"
"16:22:38,4163914","program1.exe","29340","CreateFile","C:\Windows\System\libmcfghthread.dll"
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"
"16:22:38,4165909","program1.exe","29340","CreateFile","C:\Windows\System\libmcfghthread.dll"
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"
"16:22:38,4167643","program1.exe","29340","CreateFile","C:\Windows\libmcfghthread-1.dll"
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

n/a"

"16:22:38,4168921","program1.exe","29340","QueryOpen","D:\MAI-year2\os\os_lab4\build\
NOT FOUND", ""

"16:22:38,4170236","program1.exe","29340","CreateFile","C:\Windows\libmcfghthread-1.dll"
NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open
Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize:
n/a"

"16:22:38,4171256","program1.exe","29340","QueryOpen","D:\MAI-year2\os\os_lab4\build\
NOT FOUND", ""

"16:22:38,4171351","program1.exe","29340","CreateFile","C:\Users\Maya SOATIANA\AppData\
NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open
Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize:
n/a"

"16:22:38,4173452","program1.exe","29340","CreateFile","C:\Users\Maya SOATIANA\AppData\
NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open
Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize:
n/a"

"16:22:38,4175131","program1.exe","29340","CreateFile","C:\Users\Maya SOATIANA\AppData\
NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open
Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize:
n/a"

"16:22:38,4176250","program1.exe","29340","CreateFile","C:\Program Files (x86)\VMware
Workstation\bin\libmcfghthread-1.dll", "NAME NOT FOUND", "Desired Access: Read
Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode:
Read, Write, Delete, AllocationSize: n/a"

"16:22:38,4178060","program1.exe","29340","CreateFile","C:\Users\Maya SOATIANA\AppData\
NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open
Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize:
n/a"

"16:22:38,4179023","program1.exe","29340","CreateFile","C:\Program Files\Common
Files\Oracle\Java\javapath_target_22748625\libmcfghthread-1.dll", "REPARSE", "Desired
Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes:
n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a, OpenResult: <unknown>"

"16:22:38,4181036","program1.exe","29340","CreateFile","C:\Program Files (x86)\VMware
Workstation\bin\libmcfghthread-1.dll", "NAME NOT FOUND", "Desired Access: Read
Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode:
Read, Write, Delete, AllocationSize: n/a"

"16:22:38,4181803","program1.exe","29340","CreateFile","C:\Program Files\Common
Files\Oracle\Java\javapath_target_22748625\libmcfghthread-1.dll", "NAME NOT FOUND", "Des
Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes:
n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a"

"16:22:38,4183870","program1.exe","29340","CreateFile","C:\Program Files (x86)\Common
Files\Oracle\Java\javapath_target_91359062\libmcfghthread-1.dll", "REPARSE", "Desired
Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes:
n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a, OpenResult: <unknown>"

"16:22:38,4184131","program1.exe","29340","CreateFile","C:\Program Files\Common
Files\Oracle\Java\javapath_target_22748625\libmcfghthread-1.dll", "REPARSE", "Desired
Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes:

n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a,OpenResult: <unknown>"
"16:22:38,4185627","program1.exe","29340","CreateFile","C:\Program Files (x86)\Common
Files\Oracle\Java\javapath_target_91359062\libmcfghthread-1.dll","NAME NOT FOUND","Des
Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes:
n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"
"16:22:38,4186484","program1.exe","29340","QueryOpen","D:\app\MayaSOATIANA\product\11
NOT FOUND", ""
"16:22:38,4187553","program1.exe","29340","CreateFile","C:\Program Files\Common
Files\Oracle\Java\javapath_target_22748625\libmcfghthread-1.dll","NAME NOT FOUND","Des
Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes:
n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"
"16:22:38,4191890","program1.exe","29340","CreateFile","C:\Program Files\Java\jdk1.8.
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"
"16:22:38,4191979","program1.exe","29340","CreateFile","C:\Program Files (x86)\Common
Files\Oracle\Java\javapath_target_91359062\libmcfghthread-1.dll","REPARSE","Desired
Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes:
n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a,OpenResult: <unknown>"
"16:22:38,4195266","program1.exe","29340","CreateFile","C:\Program Files (x86)\Common
Files\Oracle\Java\javapath_target_91359062\libmcfghthread-1.dll","NAME NOT FOUND","Des
Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes:
n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"
"16:22:38,4195550","program1.exe","29340","CreateFile","C:\Windows\System32\libmcfghth
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"
"16:22:38,4196677","program1.exe","29340","QueryOpen","D:\app\MayaSOATIANA\product\11
NOT FOUND", ""
"16:22:38,4198886","program1.exe","29340","CreateFile","C:\Windows\libmcfghthread-1.dl
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"
"16:22:38,4199430","program1.exe","29340","CreateFile","C:\Program Files\Java\jdk1.8.
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"
"16:22:38,4201604","program1.exe","29340","CreateFile","C:\Windows\System32\wbem\libm
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"
"16:22:38,4202855","program1.exe","29340","CreateFile","C:\Windows\System32\libmcfghth
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"
"16:22:38,4204245","program1.exe","29340","CreateFile","C:\Windows\System32\WindowsPo
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:

n/a"

"16:22:38,4206152","program1.exe","29340","CreateFile","C:\Windows\libmcfghthead-1.dll",
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"

"16:22:38,4206334","program1.exe","29340","CreateFile","C:\WINDOWS\System32\OpenSSH\:
Files\Eclipse Adoptium\jdk-17.0.7-hotspot\bin\libmcfghthead-1.dll","NAME
INVALID","Desired Access: Read Attributes,Disposition: Open,Options: Open Reparse
Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:22:38,4209554","program1.exe","29340","CreateFile","C:\Windows\System32\wbem\libm
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"

"16:22:38,4210989","program1.exe","29340","CreateFile","C:\gcc14\mingw64\bin\libmcfghthead-1.dll",
Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes:
n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a,OpenResult: Opened"

"16:22:38,4211358","program1.exe","29340","CreateFile","C:\Windows\System32\WindowsPo
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"

"16:22:38,4211782","program1.exe","29340","QueryBasicInformationFile","C:\gcc14\mingw64\bin\libmcfghthead-1.dll",
11/05/2024 22:08:58,LastAccessTime: 08/12/2025 16:19:46,LastWriteTime: 13/09/2025
16:40:11,ChangeTime: 13/09/2025 16:40:11,FileAttributes: A"

"16:22:38,4212408","program1.exe","29340","CloseFile","C:\gcc14\mingw64\bin\libmcfghthead-1.dll",
"16:22:38,4213637","program1.exe","29340","CreateFile","C:\WINDOWS\System32\OpenSSH\:
Files\Eclipse Adoptium\jdk-17.0.7-hotspot\bin\libmcfghthead-1.dll","NAME
INVALID","Desired Access: Read Attributes,Disposition: Open,Options: Open Reparse
Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:22:38,4223439","program1.exe","29340","CreateFile","C:\gcc14\mingw64\bin\libmcfghthead-1.dll",
Access: Read Data/List Directory,Execute/Traverse,Synchronize,Disposition:
Open,Options: Synchronous IO Non-Alert,Non-Directory File,Attributes: n/a,ShareMode:
Read,Delete,AllocationSize: n/a,OpenResult: Opened"

"16:22:38,4224107","program1.exe","29340","QueryEaFile","C:\gcc14\mingw64\bin\libmcfghthead-1.dll",

"16:22:38,4224775","program1.exe","29340","CreateFileMapping","C:\gcc14\mingw64\bin\libmcfghthead-1.dll",
LOCKED WITH ONLY READERS","SyncType: SyncTypeCreateSection,PageProtection:
PAGE_EXECUTE|PAGE_NOCACHE"

"16:22:38,4225466","program1.exe","29340","CreateFileMapping","C:\gcc14\mingw64\bin\libmcfghthead-1.dll",
SyncTypeOther"

"16:22:38,4226928","program1.exe","29340","QueryEaFile","C:\gcc14\mingw64\bin\libmcfghthead-1.dll",

"16:22:38,4228908","program1.exe","29340","CreateFile","C:\gcc14\mingw64\bin\libmcfghthead-1.dll",
Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes:
n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a,OpenResult: Opened"

"16:22:38,4229099","program1.exe","29340","CreateFile","C:\gcc14\mingw64\bin\libmcfghthead-1.dll",
Access: Read Attributes,Synchronize,Disposition: Open,Options: Synchronous
IO Non-Alert,Non-Directory File,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a,OpenResult: Opened"

"16:22:38,4230160","program1.exe","29340","QueryBasicInformationFile","C:\gcc14\mingw64\bin\libmcfghthead-1.dll",
11/05/2024 22:08:58,LastAccessTime: 08/12/2025 16:19:46,LastWriteTime: 13/09/2025

16:40:11,ChangeTime: 13/09/2025 16:40:11,FileAttributes: A"
"16:22:38,4230619","program1.exe","29340","CloseFile","C:\gcc14\mingw64\bin\libmcfgh.
"16:22:38,4230663","program1.exe","29340","CloseFile","C:\gcc14\mingw64\bin\libmcfgh.
"16:22:38,4231757","program1.exe","29340","QueryStreamInformationFile","C:\gcc14\mingw
::\$DATA,1: :Zone.Identifier:\$DATA"
"16:22:38,4231931","program1.exe","29340","CreateFile","C:\gcc14\mingw64\bin\libmcfgh.
Access: Read Data/List Directory,Execute/Traverse,Synchronize,Disposition:
Open,Options: Synchronous IO Non-Alert,Non-Directory File,Attributes: n/a,ShareMode:
Read,Delete,AllocationSize: n/a,OpenResult: Opened"
"16:22:38,4232642","program1.exe","29340","FileSystemControl","C:\gcc14\mingw64\bin\l
FSCTL_READ_FILE_USN_DATA"
"16:22:38,4232689","program1.exe","29340","QueryEaFile","C:\gcc14\mingw64\bin\libmcfgh.
"16:22:38,4233776","program1.exe","29340","CreateFileMapping","C:\gcc14\mingw64\bin\l
LOCKED WITH ONLY READERS","SyncType: SyncTypeCreateSection,PageProtection:
PAGE_EXECUTE|PAGE_NOCACHE"
"16:22:38,4233859","program1.exe","29340","Load Image","C:\gcc14\mingw64\bin\libmcfgh.
Base: 0x7fff62420000,Image Size: 0xf000"
"16:22:38,4234684","program1.exe","29340","CreateFileMapping","C:\gcc14\mingw64\bin\l
SyncTypeOther"
"16:22:38,4235328","program1.exe","29340","RegOpenKey","HKCU","SUCCESS","Desired
Access: Maximum Allowed,Granted Access: All Access"
"16:22:38,4235791","program1.exe","29340","RegOpenKey","HKCU\Control Panel\Desktop\Mu
NOT FOUND","Desired Access: Read"
"16:22:38,4235990","program1.exe","29340","QueryEaFile","C:\gcc14\mingw64\bin\libmcfgh.
"16:22:38,4236153","program1.exe","29340","RegCloseKey","HKCU","SUCCESS",""
"16:22:38,4237517","program1.exe","29340","RegOpenKey","HKLM\Software\Policies\Micros
NOT FOUND","Desired Access: Read"
"16:22:38,4237635","program1.exe","29340","CreateFile","C:\gcc14\mingw64\bin\libmcfgh.
Access: Read Attributes,Synchronize,Disposition: Open,Options: Synchronous
IO Non-Alert,Non-Directory File,Attributes: n/a,ShareMode: Read,Write,Delete,Allocati
n/a,OpenResult: Opened"
"16:22:38,4238319","program1.exe","29340","RegOpenKey","HKCU","SUCCESS","Desired
Access: Maximum Allowed,Granted Access: All Access"
"16:22:38,4238378","program1.exe","29340","CloseFile","C:\gcc14\mingw64\bin\libmcfgh.
"16:22:38,4239059","program1.exe","29340","RegOpenKey","HKCU\Software\Policies\Micros
Panel\Desktop","NAME NOT FOUND","Desired Access: Read"
"16:22:38,4239155","program1.exe","29340","QueryStreamInformationFile","C:\gcc14\mingw
::\$DATA,1: :Zone.Identifier:\$DATA"
"16:22:38,4239662","program1.exe","29340","RegOpenKey","HKCU\Control Panel\Desktop\La
Access: Read"
"16:22:38,4239683","program1.exe","29340","FileSystemControl","C:\gcc14\mingw64\bin\l
FSCTL_READ_FILE_USN_DATA"
"16:22:38,4240089","program1.exe","29340","RegEnumValue","HKCU\Control Panel\Desktop\
0,Name: fr-FR,Type: REG_MULTI_SZ,Length: 14,Data: en-US"
"16:22:38,4240572","program1.exe","29340","Load Image","C:\gcc14\mingw64\bin\libmcfgh.
Base: 0x17b48200000,Image Size: 0xf000"
"16:22:38,4240765","program1.exe","29340","RegEnumValue","HKCU\Control Panel\Desktop\
MORE ENTRIES","Index: 1,Length: 512"

"16:22:38,4241355","program1.exe","29340","RegCloseKey","HKCU\Control Panel\Desktop\L
"16:22:38,4241567","program1.exe","29340","CloseFile","C:\gcc14\mingw64\bin\libmcfgh
"16:22:38,4241764","program1.exe","29340","RegCloseKey","HKCU","SUCCESS",""
"16:22:38,4242378","program1.exe","29340","RegOpenKey","HKLM\Software\Policies\Micros
NOT FOUND","Desired Access: Read"
"16:22:38,4242914","program1.exe","29340","RegOpenKey","HKCU","SUCCESS","Desired
Access: Maximum Allowed,Granted Access: All Access"
"16:22:38,4243373","program1.exe","29340","RegOpenKey","HKCU\Software\Policies\Micros
Panel\Desktop","NAME NOT FOUND","Desired Access: Read"
"16:22:38,4243907","program1.exe","29340","RegOpenKey","HKCU\Control Panel\Desktop","
Access: Read"
"16:22:38,4244850","program1.exe","29340","RegQueryValue","HKCU\Control Panel\Desktop
OVERFLOW","Length: 12"
"16:22:38,4245209","program1.exe","29340","RegQueryValue","HKCU\Control Panel\Desktop
REG_MULTI_SZ,Length: 14,Data: fr-FR"
"16:22:38,4246033","program1.exe","29340","RegCloseKey","HKCU\Control Panel\Desktop",
"16:22:38,4246359","program1.exe","29340","RegCloseKey","HKCU","SUCCESS",""
"16:22:38,4246893","program1.exe","29340","RegOpenKey","HKLM\Software\Policies\Micros
NOT FOUND","Desired Access: Read"
"16:22:38,4247472","program1.exe","29340","RegOpenKey","HKCU","SUCCESS","Desired
Access: Maximum Allowed,Granted Access: All Access"
"16:22:38,4247829","program1.exe","29340","RegOpenKey","HKCU\Control Panel\Desktop\Mu
Access: Read"
"16:22:38,4248179","program1.exe","29340","RegQueryValue","HKCU\Control Panel\Desktop
OVERFLOW","Length: 12"
"16:22:38,4248494","program1.exe","29340","RegQueryValue","HKCU\Control Panel\Desktop
REG_MULTI_SZ,Length: 12,Data: fr-FR"
"16:22:38,4249024","program1.exe","29340","RegCloseKey","HKCU\Control Panel\Desktop\M
"16:22:38,4249318","program1.exe","29340","RegCloseKey","HKCU","SUCCESS",""
"16:22:38,4249818","program1.exe","29340","RegOpenKey","HKLM\Software\Policies\Micros
NOT FOUND","Desired Access: Read"
"16:22:38,4250352","program1.exe","29340","RegOpenKey","HKCU","SUCCESS","Desired
Access: Maximum Allowed,Granted Access: All Access"
"16:22:38,4250683","program1.exe","29340","RegOpenKey","HKCU\Software\Policies\Micros
Panel\Desktop","NAME NOT FOUND","Desired Access: Read"
"16:22:38,4250998","program1.exe","29340","RegOpenKey","HKCU\Control Panel\Desktop","
Access: Read"
"16:22:38,4251515","program1.exe","29340","RegQueryValue","HKCU\Control Panel\Desktop
OVERFLOW","Length: 12"
"16:22:38,4251903","program1.exe","29340","RegQueryValue","HKCU\Control Panel\Desktop
REG_MULTI_SZ,Length: 14,Data: fr-FR"
"16:22:38,4252502","program1.exe","29340","RegCloseKey","HKCU\Control Panel\Desktop",
"16:22:38,4252830","program1.exe","29340","RegCloseKey","HKCU","SUCCESS",""
"16:22:38,4253654","program1.exe","29340","RegOpenKey","HKLM\Software\Policies\Micros
NOT FOUND","Desired Access: Read"
"16:22:38,4254437","program1.exe","29340","RegOpenKey","HKCU","SUCCESS","Desired
Access: Maximum Allowed,Granted Access: All Access"
"16:22:38,4254998","program1.exe","29340","RegOpenKey","HKCU\Software\Policies\Micros

Panel\Desktop", "NAME NOT FOUND", "Desired Access: Read"
"16:22:38,4255402", "program1.exe", "29340", "RegOpenKey", "HKCU\\Control Panel\\Desktop\\La
Access: Read"
"16:22:38,4255820", "program1.exe", "29340", "RegEnumValue", "HKCU\\Control Panel\\Desktop\\
0, Name: fr-FR, Type: REG_MULTI_SZ, Length: 14, Data: en-US"
"16:22:38,4256545", "program1.exe", "29340", "RegEnumValue", "HKCU\\Control Panel\\Desktop\\
MORE ENTRIES", "Index: 1, Length: 512"
"16:22:38,4256934", "program1.exe", "29340", "RegCloseKey", "HKCU\\Control Panel\\Desktop\\L
"16:22:38,4257688", "program1.exe", "29340", "RegCloseKey", "HKCU", "SUCCESS", ""
"16:22:38,4258942", "program1.exe", "29340", "RegOpenKey", "HKLM\\Software\\Microsoft\\Wind
Access: Read"
"16:22:38,4259346", "program1.exe", "29340", "RegQueryValue", "HKLM\\SOFTWARE\\Microsoft\\Wi
NOT FOUND", "Length: 20"
"16:22:38,4259653", "program1.exe", "29340", "RegCloseKey", "HKLM\\SOFTWARE\\Microsoft\\Wind
"16:22:38,4261533", "program1.exe", "29340", "CreateFile", "C:\\gcc14\\mingw64\\bin\\libmcfgt.
Access: Generic Read, Disposition: Open, Options: Synchronous IO Non-Alert, Non-Directory
File, Attributes: n/a, ShareMode: Read, Delete, AllocationSize: n/a, OpenResult:
Opened"
"16:22:38,4270173", "program1.exe", "29340", "CloseFile", "C:\\gcc14\\mingw64\\bin\\libmcfgt.
"16:22:38,4271271", "program1.exe", "29340", "CloseFile", "C:\\gcc14\\mingw64\\bin\\libmcfgt.
"16:22:38,4278169", "program1.exe", "29340", "RegOpenKey", "HKLM\\System\\CurrentControlSet
Manager", "REPARSE", "Desired Access: Query Value"
"16:22:38,4279997", "program1.exe", "29340", "RegOpenKey", "HKLM\\System\\CurrentControlSet
Manager", "SUCCESS", "Desired Access: Query Value"
"16:22:38,4280685", "program1.exe", "29340", "RegQueryValue", "HKLM\\System\\CurrentControl
Manager\\SmtDelaySleepLoopWindowSize", "NAME NOT FOUND", "Length: 80"
"16:22:38,4281085", "program1.exe", "29340", "RegQueryValue", "HKLM\\System\\CurrentControl
Manager\\SmtDelaySpinCountThreshold", "NAME NOT FOUND", "Length: 80"
"16:22:38,4281430", "program1.exe", "29340", "RegQueryValue", "HKLM\\System\\CurrentControl
Manager\\SmtDelayBaseYield", "NAME NOT FOUND", "Length: 80"
"16:22:38,4281803", "program1.exe", "29340", "RegQueryValue", "HKLM\\System\\CurrentControl
Manager\\SmtFactorYield", "NAME NOT FOUND", "Length: 80"
"16:22:38,4282140", "program1.exe", "29340", "RegQueryValue", "HKLM\\System\\CurrentControl
Manager\\SmtDelayMaxYield", "NAME NOT FOUND", "Length: 80"
"16:22:38,4282524", "program1.exe", "29340", "RegCloseKey", "HKLM\\System\\CurrentControlSe
Manager", "SUCCESS", ""
"16:22:38,4284296", "program1.exe", "29340", "QueryNameInformationFile", "D:\\MAI-year2\\os
\\MAI-year2\\os\\os_lab4\\build\\bin\\program1.exe"
"16:22:55,3432833", "program1.exe", "29340", "CreateFile", "C:\\Windows\\System32\\kernel.ap
Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes:
n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a, OpenResult: Opened"
"16:22:55,3433935", "program1.exe", "29340", "QueryBasicInformationFile", "C:\\Windows\\Sys
15/11/2025 17:03:49, LastAccessTime: 08/12/2025 16:22:30, LastWriteTime: 15/11/2025
17:03:49, ChangeTime: 01/12/2025 02:25:32, FileAttributes: A"
"16:22:55,3434412", "program1.exe", "29340", "CloseFile", "C:\\Windows\\System32\\kernel.ap
"16:22:55,3440610", "program1.exe", "29340", "CreateFile", "C:\\Windows\\System32\\kernel.ap
Access: Read Data/List Directory, Execute/Traverse, Synchronize, Disposition:
Open, Options: Synchronous IO Non-Alert, Non-Directory File, Attributes: n/a, ShareMode:

Read,Delete,AllocationSize: n/a,OpenResult: Opened"

"16:22:55,3443274","program1.exe","29340","CreateFileMapping","C:\Windows\System32\kernel.ap
LOCKED WITH ONLY READERS","SyncType: SyncTypeCreateSection,PageProtection:
PAGE_EXECUTE|PAGE_NOCACHE"

"16:22:55,3445134","program1.exe","29340","CreateFileMapping","C:\Windows\System32\kernel.ap
SyncTypeOther"

"16:22:55,3450468","program1.exe","29340","Load Image","C:\Windows\System32\kernel.ap
Base: 0x7fff646b0000,Image Size: 0x1b000"

"16:22:55,3453601","program1.exe","29340","Load Image","C:\Windows\System32\msvcrt.dll
Base: 0x7fff67420000,Image Size: 0xa9000"

"16:22:55,3456924","program1.exe","29340","CloseFile","C:\Windows\System32\kernel.ap
"16:22:55,3459994","program1.exe","29340","RegOpenKey","HKLM\System\CurrentControlSet
Access: Read"

"16:22:55,3460564","program1.exe","29340","RegOpenKey","HKLM\System\CurrentControlSet
Access: Read"

"16:22:55,3460914","program1.exe","29340","RegQueryValue","HKLM\System\CurrentControlSet
REG_SZ,Length: 18,Data: 00060502"

"16:22:55,3461391","program1.exe","29340","RegQueryValue","HKLM\System\CurrentControlSet
REG_SZ,Length: 26,Data: kernel32.dll"

"16:22:55,3463032","program1.exe","29340","Thread Exit","",,"SUCCESS","Thread
ID: 25408,User Time: 0.0000000,Kernel Time: 0.0000000"

"16:22:55,3463120","program1.exe","29340","Thread Exit","",,"SUCCESS","Thread
ID: 26876,User Time: 0.0000000,Kernel Time: 0.0000000"

"16:22:55,3463163","program1.exe","29340","Thread Exit","",,"SUCCESS","Thread
ID: 7148,User Time: 0.0000000,Kernel Time: 0.0000000"

"16:22:55,3464320","program1.exe","29340","Thread Exit","",,"SUCCESS","Thread
ID: 24652,User Time: 0.0156250,Kernel Time: 0.0156250"

"16:22:55,3467731","program1.exe","29340","Process Exit","",,"SUCCESS","Exit
Status: 0,User Time: 0.0156250 seconds,Kernel Time: 0.0156250 seconds,Private
Bytes: 966656,Peak Private Bytes: 966656,Working Set: 5013504,Peak Working
Set: 5013504"

"16:22:55,3468545","program1.exe","29340","RegOpenKey","HKLM\System\CurrentControlSet
Access: All Access"

"16:22:55,3468884","program1.exe","29340","RegQueryValue","HKLM\System\CurrentControlSet
NOT FOUND","Length: 40"

"16:22:55,3469202","program1.exe","29340","RegCloseKey","HKLM\System\CurrentControlSet
"16:22:55,3469724","program1.exe","29340","RegCloseKey","HKLM\SOFTWARE\Microsoft\Wind
NT\CurrentVersion\Image File Execution Options","SUCCESS",""

"16:22:55,3470525","program1.exe","29340","CloseFile","D:\MAI-year2\os\os_lab4\build
"16:22:55,3472907","program1.exe","29340","RegCloseKey","HKLM\System\CurrentControlSet
Manager","SUCCESS",""

"16:22:55,3473258","program1.exe","29340","RegCloseKey","HKLM\System\CurrentControlSet

Системные вызовы program 2

"Time of Day","Process Name","PID","Operation","Path","Result","Detail"

"16:24:51,6784736","program2.exe","14636","Process Start","",,"SUCCESS","Parent
PID: 16344,Command line: ""D:\MAI-year2\os\os_lab4\build\bin\program2.exe"" ,Current

```
directory: D:\MAI-year2\os\os_lab4\build\,Environment:
; ALLUSERSPROFILE=C:\ProgramData
; APPDATA=C:\Users\Maya SOATIANA\AppData\Roaming
; ChocolateyInstall=C:\ProgramData\chocolatey
; ChocolateyLastPathUpdate=133772060459044552
; CHROME_CRASHPAD_PIPE_NAME=\\.\pipe\crashpad_26148_ULALDOXBNHXMCSJO
; CLASSPATH=.;D:\app\MayaSOATIANA\product\11.2.0\dbhome_1\jdbc\lib\ojdbc6.jar;D:\Pilo
Files\Java\jdk-17\bin;
; CommonProgramFiles=C:\Program Files\Common Files
; CommonProgramFiles(x86)=C:\Program Files (x86)\Common Files
; CommonProgramW6432=C:\Program Files\Common Files
; COMPUTERNAME=DESKTOP-PDVOEPV
; ComSpec=C:\WINDOWS\system32\cmd.exe
; DriverData=C:\Windows\System32\Drivers\DriverData
; EFC_25612_1262719628=1
; EFC_25612_1592913036=1
; EFC_25612_2283032206=1
; EFC_25612_2775293581=1
; EFC_25612_3789132940=1
; FPS_BROWSER_APP_PROFILE_STRING=Internet Explorer
; FPS_BROWSER_USER_PROFILE_STRING=Default
; GNUPLOT_LIB=C:\Program Files\gnuplot\demo;C:\Program Files\gnuplot\demo\games;C:\Pr
Files\gnuplot\share
; HOMEDRIVE=C:
; HOMEPATH=\Users\Maya SOATIANA
; JAVA_HOME=C:\Program Files\Java\jdk-17
; LOCALAPPDATA=C:\Users\Maya SOATIANA\AppData\Local
; LOGONSERVER=\\DESKTOP-PDVOEPV
; MOZ_PLUGIN_PATH=C:\Program Files (x86)\Foxit Software\Foxit Reader\plugins\
; NUMBER_OF_PROCESSORS=8
; OneDrive=C:\Users\Maya SOATIANA\OneDrive
; ORIGINAL_XDG_CURRENT_DESKTOP=undefined
; OS=Windows_NT
; Path=c:\Users\Maya SOATIANA\AppData\Roaming\Code\User\globalStorage\github.copilot-
SOATIANA\AppData\Roaming\Code\User\globalStorage\github.copilot-chat\copilotCli;C:\Pr
Files (x86)\VMware\VMware Workstation\bin\;C:\Program Files\Common Files\Oracle\Java\
Files (x86)\Common Files\Oracle\Java\javapath;D:\app\MayaSOATIANA\product\11.2.0\dbho
Files\Java\jdk1.8.0_361\bin;C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\Wbem;C
Files\Eclipse Adoptium\jdk-17.0.7-hotspot\bin;C:\gcc14\mingw64\bin;C:\Program
Files\dotnet\;C:\Program Files\Microsoft SQL Server\150\Tools\Binn\;C:\Program
Files\Microsoft SQL Server\Client SDK\ODBC\170\Tools\Binn\;C:\Program Files\gnuplot\b
Files\Git\cmd;C:\ProgramData\chocolatey\bin;C:\Windows\System32\OpenSSH\;C:\Program
Files\Python310;C:\Program Files\Python310\Scripts\;C:\Users\Maya SOATIANA\AppData\Ro
Files\Docker\Docker\resources\bin;C:\Program Files\swipl\bin;;C:\WINDOWS\System32\Ope
SOATIANA\AppData\Local\Microsoft\WindowsApps;C:\Users\Maya SOATIANA\AppData\Local\Pro
VS Code\bin;C:\Users\Maya SOATIANA\.dotnet\tools;C:\Users\Maya SOATIANA\AppData\Local
Files\JetBrains\PyCharm 2025.1.1.1\bin;;D:\swipl\bin;C:\Program Files\swipl\bin;
; PATHEXT=.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH;.MSC;.CPL
```

```
; PROCESSOR_ARCHITECTURE=AMD64
; PROCESSOR_IDENTIFIER=Intel64 Family 6 Model 140 Stepping 1,GenuineIntel
; PROCESSOR_LEVEL=6
; PROCESSOR_REVISION=8c01
; ProgramData=C:\ProgramData
; ProgramFiles=C:\Program Files
; ProgramFiles(x86)=C:\Program Files (x86)
; ProgramW6432=C:\Program Files
; PSModulePath=C:\Users\Maya SOATIANA\Documents\WindowsPowerShell\Modules;C:\Program
Files\WindowsPowerShell\Modules;C:\WINDOWS\system32\WindowsPowerShell\v1.0\Modules
; PUBLIC=C:\Users\Public
; PyCharm=C:\Program Files\JetBrains\PyCharm 2025.1.1.1\bin;
; SESSIONNAME=Console
; SystemDrive=C:
; SystemRoot=C:\WINDOWS
; TEMP=C:\Users\MAYASO~1\AppData\Local\Temp
; TMP=C:\Users\MAYASO~1\AppData\Local\Temp
; USERDOMAIN=DESKTOP-PDVOEPV
; USERDOMAIN_ROAMINGPROFILE=DESKTOP-PDVOEPV
; USERNAME=Maya SOATIANA
; USERPROFILE=C:\Users\Maya SOATIANA
; windir=C:\WINDOWS
; ZES_ENABLE_SYSMAN=1
; TERM_PROGRAM=vscode
; TERM_PROGRAM_VERSION=1.106.3
; LANG=en_US.UTF-8
; COLORTERM=truecolor
; GIT_ASKPASS=c:\Users\Maya "
"16:24:51,6789278","program2.exe","14636","Thread Create","","","SUCCESS","Thread
ID: 17872"
"16:24:51,7218915","program2.exe","14636","FileSystemControl","D:\MAI-year2\os\os_lab
DEVICE REQUEST","Control: 0x90390 (Device:0x9 Function:228 Method: 0)"
"16:24:51,7226450","program2.exe","14636","QueryBasicInformationFile","D:\MAI-year2\o
08/12/2025 13:56:53,LastAccessTime: 08/12/2025 16:24:51,LastWriteTime: 08/12/2025
13:56:53,ChangeTime: 08/12/2025 13:56:53,FileAttributes: A"
"16:24:51,7229030","program2.exe","14636","FileSystemControl","D:\MAI-year2\os\os_lab
DEVICE REQUEST","Control: 0x90390 (Device:0x9 Function:228 Method: 0)"
"16:24:51,7232166","program2.exe","14636","QueryAttributeInformationVolume","D:\MAI-y
Case Preserved,Case Sensitive,Unicode,ACLs,Compression,Named Streams,EFS,Object
IDs,Reparse Points,Sparse Files,Quotas,Transactions,0x3c02e00,MaximumComponentNameLen
255,FileSystemName: NTFS"
"16:24:51,7236287","program2.exe","14636","CreateFile","D:\MAI-year2\os\os_lab4\build
Access: Read Attributes,Synchronize,Disposition: Open,Options: Synchronous
IO Non-Alert,Non-Directory File,Attributes: n/a,ShareMode: Read,Write,Delete,Allocati
n/a,OpenResult: Opened"
"16:24:51,7238530","program2.exe","14636","CloseFile","D:\MAI-year2\os\os_lab4\build\
"16:24:51,7241851","program2.exe","14636","QueryStreamInformationFile","D:\MAI-year2\
::$DATA"
```

"16:24:51,7243743","program2.exe","14636","FileSystemControl","D:\MAI-year2\os\os_lab4\FSCTL_READ_FILE_USN_DATA"

"16:24:51,7247067","program2.exe","14636","Load Image","D:\MAI-year2\os\os_lab4\build\program2.exe",Base: 0x7ff689900000,Image Size: 0x19000"

"16:24:51,7251101","program2.exe","14636","Load Image","C:\Windows\System32\ntdll.dll",Base: 0x7fff687e0000,Image Size: 0x268000"

"16:24:51,7254828","program2.exe","14636","CreateFile","C:\Windows\Prefetch\PROGRAM2.EXE",Access: Generic Read,Disposition: Open,Options: Synchronous IO Non-Alert,Attributes: 0,ShareMode: None,AllocationSize: 0,OpenResult: Opened"

"16:24:51,7266654","program2.exe","14636","QueryStandardInformationFile","C:\Windows\System32\ntdll.dll",4096,EndOfFile: 2470,NumberOfLinks: 1,DeletePending: False,Directory: False"

"16:24:51,7271203","program2.exe","14636","ReadFile","C:\Windows\Prefetch\PROGRAM2.EXE",0,Length: 2470,Priority: Normal"

"16:24:51,7274235","program2.exe","14636","ReadFile","C:\Windows\Prefetch\PROGRAM2.EXE",0,Length: 2470,I/O Flags: Non-cached,Paging I/O,Priority: Normal"

"16:24:51,7286125","program2.exe","14636","CloseFile","C:\Windows\Prefetch\PROGRAM2.EXE",0,Length: 2470,I/O Flags: Non-cached,Paging I/O,Priority: Normal"

"16:24:51,7524917","program2.exe","14636","RegOpenKey","HKLM\System\CurrentControlSet\Control\FileSystem",Access: Read"

"16:24:51,7528675","program2.exe","14636","RegOpenKey","HKLM\System\CurrentControlSet\Control\FileSystem",Access: Read"

"16:24:51,7530947","program2.exe","14636","RegQueryValue","HKLM\System\CurrentControlSet\Control\FileSystem\REG_SZ",Length: 12,Data: 65001"

"16:24:51,7536559","program2.exe","14636","RegQueryValue","HKLM\System\CurrentControlSet\Control\FileSystem\REG_SZ",Length: 12,Data: 65001"

"16:24:51,7538149","program2.exe","14636","RegCloseKey","HKLM\System\CurrentControlSet\Control\FileSystem"

"16:24:51,7544034","program2.exe","14636","RegOpenKey","HKLM\System\CurrentControlSet\Control\FileSystem\Manager","REPARSE","Desired Access: Query Value"

"16:24:51,7546458","program2.exe","14636","RegOpenKey","HKLM\System\CurrentControlSet\Control\FileSystem\Manager","SUCCESS","Desired Access: Query Value"

"16:24:51,7550686","program2.exe","14636","RegQueryValue","HKLM\System\CurrentControlSet\Control\FileSystem\Manager\RaiseExceptionOnPossibleDeadlock","NAME NOT FOUND","Length: 80"

"16:24:51,7552007","program2.exe","14636","RegCloseKey","HKLM\System\CurrentControlSet\Control\FileSystem\Manager","SUCCESS",""

"16:24:51,7552978","program2.exe","14636","RegOpenKey","HKLM\SYSTEM\CurrentControlSet\Control\FileSystem\Manager\Segment Heap","REPARSE","Desired Access: Query Value"

"16:24:51,7554316","program2.exe","14636","RegOpenKey","HKLM\System\CurrentControlSet\Control\FileSystem\Manager\Segment Heap","NAME NOT FOUND","Desired Access: Query Value"

"16:24:51,7555435","program2.exe","14636","RegOpenKey","HKLM\Software\Microsoft\Windows NT\CurrentVersion\Image File Execution Options","SUCCESS","Desired Access: Query Value,Enumerate Sub Keys"

"16:24:51,7556852","program2.exe","14636","RegOpenKey","HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Image File Execution Options\program2.exe","NAME NOT FOUND","Desired Access: Query Value,Enumerate Sub Keys"

"16:24:51,7563724","program2.exe","14636","RegQueryValue","HKLM\System\CurrentControlSet\Control\FileSystem\TOO SMALL","Length: 0"

"16:24:51,7566022","program2.exe","14636","RegQueryValue","HKLM\System\CurrentControlSet\Control\FileSystem\REG_BINARY",Length: 72,Data: 01 00 04 80 00 00 00 00 00 00 00 00 00 00 00 00"

"16:24:51,7573004","program2.exe","14636","CreateFile","D:\MAI-year2\os\os_lab4\build\program2.exe",Access: Read,Disposition: Open,Options: Synchronous IO Non-Alert,Attributes: 0,ShareMode: None,AllocationSize: 0,OpenResult: Opened"

Access: Execute/Traverse,Synchronize,Disposition: Open,Options: Directory,Synchronous
IO Non-Alert,Attributes: n/a,ShareMode: Read,Write,AllocationSize: n/a,OpenResult:
Opened"

"16:24:51,7580281","program2.exe","14636","Load Image","C:\Windows\System32\kernel32.
Base: 0x7fff67890000,Image Size: 0xc9000"

"16:24:51,7587934","program2.exe","14636","Load Image","C:\Windows\System32\KernelBas
Base: 0x7fff65a20000,Image Size: 0x3f8000"

"16:24:51,7622458","program2.exe","14636","RegOpenKey","HKLM\System\CurrentControlSet
Access: Read"

"16:24:51,7626662","program2.exe","14636","RegOpenKey","HKLM\System\CurrentControlSet
NOT FOUND","Desired Access: Read"

"16:24:51,7630619","program2.exe","14636","RegOpenKey","HKLM\System\CurrentControlSet
Server","REPARSE","Desired Access: Read"

"16:24:51,7631841","program2.exe","14636","RegOpenKey","HKLM\System\CurrentControlSet
Server","SUCCESS","Desired Access: Read"

"16:24:51,7633462","program2.exe","14636","RegQueryValue","HKLM\System\CurrentControl
Server\TSAppCompat","NAME NOT FOUND","Length: 548"

"16:24:51,7634971","program2.exe","14636","RegQueryValue","HKLM\System\CurrentControl
Server\TSUserEnabled","SUCCESS","Type: REG_DWORD,Length: 4,Data: 0"

"16:24:51,7639036","program2.exe","14636","RegCloseKey","HKLM\System\CurrentControlSe
Server","SUCCESS",""

"16:24:51,7646167","program2.exe","14636","RegOpenKey","HKLM\System\CurrentControlSet
Access: Query Value,Set Value"

"16:24:51,7648316","program2.exe","14636","RegOpenKey","HKLM\System\CurrentControlSet
NOT FOUND","Desired Access: Query Value,Set Value"

"16:24:51,7650011","program2.exe","14636","RegOpenKey","HKLM\System\CurrentControlSet
Access: Read"

"16:24:51,7654019","program2.exe","14636","RegOpenKey","HKLM\System\CurrentControlSet
NOT FOUND","Desired Access: Read"

"16:24:51,7655797","program2.exe","14636","RegOpenKey","HKLM\Software\Policies\Micros
Access: Query Value"

"16:24:51,7660016","program2.exe","14636","RegQueryValue","HKLM\SOFTWARE\Policies\Mic
NOT FOUND","Length: 80"

"16:24:51,7663212","program2.exe","14636","RegCloseKey","HKLM\SOFTWARE\Policies\Micros
"16:24:51,7664546","program2.exe","14636","RegOpenKey","HKCU\Software\Policies\Micros
NOT FOUND","Desired Access: Query Value"

"16:24:51,7666243","program2.exe","14636","RegOpenKey","HKLM\System\CurrentControlSet
Access: Read"

"16:24:51,7668801","program2.exe","14636","RegOpenKey","HKLM\System\CurrentControlSet
Access: Read"

"16:24:51,7670435","program2.exe","14636","RegQueryValue","HKLM\System\CurrentControl
REG_DWORD,Length: 4,Data: 1"

"16:24:51,7672859","program2.exe","14636","RegQueryValue","HKLM\System\CurrentControl
NOT FOUND","Length: 20"

"16:24:51,7674861","program2.exe","14636","RegCloseKey","HKLM\System\CurrentControlSe
"16:24:51,7677884","program2.exe","14636","Thread Create","","SUCCESS","Thread
ID: 16620"

"16:24:51,7679536","program2.exe","14636","Thread Create","","SUCCESS","Thread

ID: 6544"

"16:24:51,7681282","program2.exe","14636","RegOpenKey","HKLM\System\CurrentControlSet\Manager","REPARSE","Desired Access: Query Value"

"16:24:51,7682908","program2.exe","14636","Load Image","C:\Windows\System32\ucrtbase.dll", "Base: 0x7fff662c0000,Image Size: 0x14b000"

"16:24:51,7684466","program2.exe","14636","RegOpenKey","HKLM\System\CurrentControlSet\Manager","SUCCESS","Desired Access: Query Value"

"16:24:51,7686677","program2.exe","14636","RegQueryValue","HKLM\System\CurrentControlSet\Manager\SafeDllSearchMode","NAME NOT FOUND","Length: 16"

"16:24:51,7687432","program2.exe","14636","Thread Create","","","SUCCESS","Thread ID: 23512"

"16:24:51,7691896","program2.exe","14636","QueryOpen","D:\MAI-year2\os\os_lab4\build\program2.exe", "NOT FOUND", ""

"16:24:51,7692821","program2.exe","14636","QueryOpen","D:\MAI-year2\os\os_lab4\build\program2.exe", "NOT FOUND", ""

"16:24:51,7704547","program2.exe","14636","CreateFile","C:\Windows\System32\libstdc++.dll", "NOT FOUND", "Desired Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:24:51,7707398","program2.exe","14636","CreateFile","C:\Windows\System32\libgcc_s_seh-1.dll", "NOT FOUND", "Desired Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:24:51,7710536","program2.exe","14636","CreateFile","C:\Windows\System\libstdc++-6.dll", "NOT FOUND", "Desired Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:24:51,7714274","program2.exe","14636","CreateFile","C:\Windows\System\libgcc_s_seh-1.dll", "NOT FOUND", "Desired Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:24:51,7723791","program2.exe","14636","CreateFile","C:\Windows\libstdc++-6.dll", "NOT FOUND", "Desired Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:24:51,7725835","program2.exe","14636","QueryOpen","D:\MAI-year2\os\os_lab4\build\program2.exe", "NOT FOUND", ""

"16:24:51,7732008","program2.exe","14636","CreateFile","C:\Windows\libgcc_s_seh-1.dll", "NOT FOUND", "Desired Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:24:51,7734575","program2.exe","14636","CreateFile","C:\Users\Maya SOATIANA\AppData\Local\Temp\program2.exe", "NOT FOUND", "Desired Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:24:51,7735473","program2.exe","14636","QueryOpen","D:\MAI-year2\os\os_lab4\build\program2.exe", "NOT FOUND", ""

"16:24:51,7740186","program2.exe","14636","CreateFile","C:\Users\Maya SOATIANA\AppData\Local\Temp\program2.exe", "NOT FOUND", ""

NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open
Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize:
n/a"

"16:24:51,7749052", "program2.exe", "14636", "CreateFile", "C:\Program Files (x86)\VMware
Workstation\bin\libstdc++-6.dll", "NAME NOT FOUND", "Desired Access: Read Attributes, Di
Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, Allocat
n/a"

"16:24:51,7750405", "program2.exe", "14636", "CreateFile", "C:\Users\Maya SOATIANA\AppData
NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open
Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize:
n/a"

"16:24:51,7760573", "program2.exe", "14636", "CreateFile", "C:\Program Files\Common
Files\Oracle\Java\javapath_target_22748625\libstdc++-6.dll", "REPARSE", "Desired
Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes:
n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a, OpenResult: <unknown>"

"16:24:51,7761804", "program2.exe", "14636", "CreateFile", "C:\Users\Maya SOATIANA\AppData
NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open
Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize:
n/a"

"16:24:51,7766684", "program2.exe", "14636", "CreateFile", "C:\Program Files\Common
Files\Oracle\Java\javapath_target_22748625\libstdc++-6.dll", "NAME NOT FOUND", "Desired
Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes:
n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a"

"16:24:51,7769461", "program2.exe", "14636", "CreateFile", "C:\Program Files (x86)\VMware
Workstation\bin\libgcc_s_seh-1.dll", "NAME NOT FOUND", "Desired Access: Read
Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode:
Read, Write, Delete, AllocationSize: n/a"

"16:24:51,7776041", "program2.exe", "14636", "CreateFile", "C:\Program Files (x86)\Common
Files\Oracle\Java\javapath_target_91359062\libstdc++-6.dll", "REPARSE", "Desired
Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes:
n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a, OpenResult: <unknown>"

"16:24:51,7779949", "program2.exe", "14636", "CreateFile", "C:\Program Files\Common
Files\Oracle\Java\javapath_target_22748625\libgcc_s_seh-1.dll", "REPARSE", "Desired
Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes:
n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a, OpenResult: <unknown>"

"16:24:51,7784070", "program2.exe", "14636", "CreateFile", "C:\Program Files (x86)\Common
Files\Oracle\Java\javapath_target_91359062\libstdc++-6.dll", "NAME NOT FOUND", "Desired
Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes:
n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a"

"16:24:51,7786826", "program2.exe", "14636", "CreateFile", "C:\Program Files\Common
Files\Oracle\Java\javapath_target_22748625\libgcc_s_seh-1.dll", "NAME NOT FOUND", "Desi
Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes:
n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a"

"16:24:51,7788086", "program2.exe", "14636", "QueryOpen", "D:\app\MayaSOATIANA\product\11
NOT FOUND", ""

"16:24:51,7793162", "program2.exe", "14636", "CreateFile", "C:\Program Files\Java\jdk1.8.
NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open
Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize:

n/a"

"16:24:51,7794816","program2.exe","14636","CreateFile","C:\Program Files (x86)\Common Files\Oracle\Java\javapath_target_91359062\libgcc_s_seh-1.dll","REPARSE","Desired Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a,OpenResult: <unknown>"

"16:24:51,7799521","program2.exe","14636","CreateFile","C:\Windows\System32\libstdc++ NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:24:51,7802220","program2.exe","14636","CreateFile","C:\Program Files (x86)\Common Files\Oracle\Java\javapath_target_91359062\libgcc_s_seh-1.dll","NAME NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:24:51,7804442","program2.exe","14636","QueryOpen","D:\app\MayaSOATIANA\product\11 NOT FOUND", ""

"16:24:51,7808263","program2.exe","14636","CreateFile","C:\Windows\libstdc++-6.dll"," NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:24:51,7810725","program2.exe","14636","CreateFile","C:\Program Files\Java\jdk1.8. NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:24:51,7815273","program2.exe","14636","CreateFile","C:\Windows\System32\wbem\libs NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:24:51,7821420","program2.exe","14636","CreateFile","C:\Windows\System32\libgcc_s. NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:24:51,7821755","program2.exe","14636","CreateFile","C:\Windows\System32\WindowsPo NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:24:51,7826834","program2.exe","14636","CreateFile","C:\WINDOWS\System32\OpenSSH\ Files\Eclipse Adoptium\jdk-17.0.7.7-hotspot\bin\libstdc++-6.dll","NAME INVALID","Desired Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:24:51,7833840","program2.exe","14636","CreateFile","C:\Windows\libgcc_s_seh-1.dll NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:24:51,7834320","program2.exe","14636","CreateFile","C:\gcc14\mingw64\bin\libstdc+ Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a,OpenResult: Opened"

"16:24:51,7837221","program2.exe","14636","QueryBasicInformationFile","C:\gcc14\mingw 12/05/2024 09:28:28,LastAccessTime: 08/12/2025 16:22:38,LastWriteTime: 13/09/2025

16:40:12,ChangeTime: 13/09/2025 16:40:12,FileAttributes: A"
"16:24:51,7840010", "program2.exe", "14636", "CloseFile", "C:\gcc14\mingw64\bin\libstdc++
"16:24:51,7840221", "program2.exe", "14636", "CreateFile", "C:\Windows\System32\wbem\libg
NOT FOUND", "Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"
"16:24:51,7846826", "program2.exe", "14636", "CreateFile", "C:\gcc14\mingw64\bin\libstdc++
Access: Read Data/List Directory,Execute/Traverse,Synchronize,Disposition:
Open,Options: Synchronous IO Non-Alert,Non-Directory File,Attributes: n/a,ShareMode:
Read,Delete,AllocationSize: n/a,OpenResult: Opened"
"16:24:51,7848372", "program2.exe", "14636", "CreateFile", "C:\Windows\System32\WindowsPo
NOT FOUND", "Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"
"16:24:51,7849383", "program2.exe", "14636", "QueryEaFile", "C:\gcc14\mingw64\bin\libstdc++
"16:24:51,7852237", "program2.exe", "14636", "CreateFileMapping", "C:\gcc14\mingw64\bin\l
LOCKED WITH ONLY READERS", "SyncType: SyncTypeCreateSection,PageProtection:
PAGE_EXECUTE|PAGE_NOCACHE"
"16:24:51,7859327", "program2.exe", "14636", "CreateFile", "C:\WINDOWS\System32\OpenSSH\:
Files\Eclipse Adoptium\jdk-17.0.7-hotspot\bin\libgcc_s_seh-1.dll", "NAME_INVALID", "D
Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes:
n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"
"16:24:51,7864849", "program2.exe", "14636", "CreateFileMapping", "C:\gcc14\mingw64\bin\l
SyncTypeOther"
"16:24:51,7866777", "program2.exe", "14636", "CreateFile", "C:\gcc14\mingw64\bin\libgcc_s
Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes:
n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a,OpenResult: Opened"
"16:24:51,7868886", "program2.exe", "14636", "QueryBasicInformationFile", "C:\gcc14\mingw
12/05/2024 09:28:28,LastAccessTime: 08/12/2025 16:22:38,LastWriteTime: 13/09/2025
16:40:11,ChangeTime: 13/09/2025 16:40:11,FileAttributes: A"
"16:24:51,7870174", "program2.exe", "14636", "CloseFile", "C:\gcc14\mingw64\bin\libgcc_s.
"16:24:51,7870282", "program2.exe", "14636", "QueryEaFile", "C:\gcc14\mingw64\bin\libstdc
"16:24:51,7874743", "program2.exe", "14636", "CreateFile", "C:\gcc14\mingw64\bin\libstdc++
Access: Read Attributes,Synchronize,Disposition: Open,Options: Synchronous
IO Non-Alert,Non-Directory File,Attributes: n/a,ShareMode: Read,Write,Delete,Allocati
n/a,OpenResult: Opened"
"16:24:51,7875849", "program2.exe", "14636", "CreateFile", "C:\gcc14\mingw64\bin\libgcc_s
Access: Read Data/List Directory,Execute/Traverse,Synchronize,Disposition:
Open,Options: Synchronous IO Non-Alert,Non-Directory File,Attributes: n/a,ShareMode:
Read,Delete,AllocationSize: n/a,OpenResult: Opened"
"16:24:51,7877618", "program2.exe", "14636", "CloseFile", "C:\gcc14\mingw64\bin\libstdc++
"16:24:51,7877713", "program2.exe", "14636", "QueryEaFile", "C:\gcc14\mingw64\bin\libgcc_
"16:24:51,7879477", "program2.exe", "14636", "CreateFileMapping", "C:\gcc14\mingw64\bin\l
LOCKED WITH ONLY READERS", "SyncType: SyncTypeCreateSection,PageProtection:
PAGE_EXECUTE|PAGE_NOCACHE"
"16:24:51,7884280", "program2.exe", "14636", "CreateFileMapping", "C:\gcc14\mingw64\bin\l
SyncTypeOther"
"16:24:51,7887839", "program2.exe", "14636", "QueryStreamInformationFile", "C:\gcc14\mingw

::\$DATA,1: :Zone.Identifier:\$DATA"
"16:24:51,7890161","program2.exe","14636","QueryEaFile","C:\gcc14\mingw64\bin\libgcc_s.
"16:24:51,7890318","program2.exe","14636","FileSystemControl","C:\gcc14\mingw64\bin\libgcc_s.
FSCTL_READ_FILE_USN_DATA"
"16:24:51,7892251","program2.exe","14636","Load Image","C:\gcc14\mingw64\bin\libstdc++.so.6"
Base: 0x7fff40b80000,Image Size: 0x248000"
"16:24:51,7893291","program2.exe","14636","CreateFile","C:\gcc14\mingw64\bin\libgcc_s.
Access: Read Attributes,Synchronize,Disposition: Open,Options: Synchronous
IO Non-Alert,Non-Directory File,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a,OpenResult: Opened"
"16:24:51,7896414","program2.exe","14636","QueryOpen","D:\MAI-year2\os\os_lab4\build\bin\program2.exe"
NOT FOUND",""
"16:24:51,7896486","program2.exe","14636","CloseFile","C:\gcc14\mingw64\bin\libstdc++.so.6"
"16:24:51,7896750","program2.exe","14636","CloseFile","C:\gcc14\mingw64\bin\libgcc_s.
"16:24:51,7900844","program2.exe","14636","QueryOpen","D:\MAI-year2\os\os_lab4\build\bin\program2.exe"
NOT FOUND",""
"16:24:51,7901560","program2.exe","14636","QueryStreamInformationFile","C:\gcc14\mingw64\bin\libstdc++.so.6"
::\$DATA,1: :Zone.Identifier:\$DATA"
"16:24:51,7903986","program2.exe","14636","FileSystemControl","C:\gcc14\mingw64\bin\libgcc_s.
FSCTL_READ_FILE_USN_DATA"
"16:24:51,7906463","program2.exe","14636","Load Image","C:\gcc14\mingw64\bin\libgcc_s.
Base: 0x7fff40aa0000,Image Size: 0xd4000"
"16:24:51,7908773","program2.exe","14636","CloseFile","C:\gcc14\mingw64\bin\libgcc_s.
"16:24:51,7910948","program2.exe","14636","CreateFile","C:\Windows\System32\libmcfghthead-1.dll"
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"
"16:24:51,7914995","program2.exe","14636","CreateFile","C:\Windows\System32\libgcc_s.
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"
"16:24:51,7920200","program2.exe","14636","CreateFile","C:\Windows\System\libmcfghthead-1.dll"
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"
"16:24:51,7920596","program2.exe","14636","QueryOpen","D:\MAI-year2\os\os_lab4\build\bin\program2.exe"
NOT FOUND",""
"16:24:51,7923822","program2.exe","14636","CreateFile","C:\Windows\System\libgcc_s.seh"
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"
"16:24:51,7935194","program2.exe","14636","CreateFile","C:\Windows\libmcfghthead-1.dll"
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"
"16:24:51,7938199","program2.exe","14636","CreateFile","C:\Windows\System32\libmcfghthead-1.dll"
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:

n/a"

"16:24:51,7939673","program2.exe","14636","CreateFile","C:\Windows\libgcc_s_seh-1.dll
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"

"16:24:51,7943857","program2.exe","14636","QueryOpen","D:\MAI-year2\os\os_lab4\build\
NOT FOUND", ""

"16:24:51,7949469","program2.exe","14636","QueryOpen","D:\MAI-year2\os\os_lab4\build\
NOT FOUND", ""

"16:24:51,7951996","program2.exe","14636","CreateFile","C:\Windows\System\libmcfghre
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"

"16:24:51,7961624","program2.exe","14636","CreateFile","C:\Windows\libmcfghthread-1.dl
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"

"16:24:51,7963274","program2.exe","14636","QueryOpen","D:\MAI-year2\os\os_lab4\build\
NOT FOUND", ""

"16:24:51,7964346","program2.exe","14636","CreateFile","C:\Users\Maya SOATIANA\AppData
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"

"16:24:51,7965349","program2.exe","14636","CreateFile","C:\Users\Maya SOATIANA\AppData
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"

"16:24:51,7971600","program2.exe","14636","CreateFile","C:\Users\Maya SOATIANA\AppData
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"

"16:24:51,7974617","program2.exe","14636","CreateFile","C:\Users\Maya SOATIANA\AppData
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"

"16:24:51,7974827","program2.exe","14636","CreateFile","C:\Users\Maya SOATIANA\AppData
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"

"16:24:51,7977422","program2.exe","14636","CreateFile","C:\Program Files (x86)\VMware
Workstation\bin\libmcfghthread-1.dll","NAME NOT FOUND","Desired Access: Read
Attributes,Disposition: Open,Options: Open Reparse Point,Attributes: n/a,ShareMode:
Read,Write,Delete,AllocationSize: n/a"

"16:24:51,7983198","program2.exe","14636","CreateFile","C:\Program Files (x86)\VMware
Workstation\bin\libgcc_s_seh-1.dll","NAME NOT FOUND","Desired Access: Read
Attributes,Disposition: Open,Options: Open Reparse Point,Attributes: n/a,ShareMode:
Read,Write,Delete,AllocationSize: n/a"

"16:24:51,7984197","program2.exe","14636","CreateFile","C:\Users\Maya SOATIANA\AppData

NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a"

"16:24:51,7990062", "program2.exe", "14636", "CreateFile", "C:\Program Files\Common Files\Oracle\Java\javapath_target_22748625\libmcfghthread-1.dll", "REPARSE", "Desired Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a, OpenResult: <unknown>"

"16:24:51,7990956", "program2.exe", "14636", "CreateFile", "C:\Program Files (x86)\VMware Workstation\bin\libmcfghthread-1.dll", "NAME NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a"

"16:24:51,7998128", "program2.exe", "14636", "CreateFile", "C:\Program Files\Common Files\Oracle\Java\javapath_target_22748625\libmcfghthread-1.dll", "REPARSE", "Desired Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a, OpenResult: <unknown>"

"16:24:51,7998568", "program2.exe", "14636", "CreateFile", "C:\Program Files\Common Files\Oracle\Java\javapath_target_22748625\libgcc_s_seh-1.dll", "REPARSE", "Desired Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a, OpenResult: <unknown>"

"16:24:51,8002986", "program2.exe", "14636", "CreateFile", "C:\Program Files\Common Files\Oracle\Java\javapath_target_22748625\libmcfghthread-1.dll", "NAME NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a"

"16:24:51,8007554", "program2.exe", "14636", "CreateFile", "C:\Program Files\Common Files\Oracle\Java\javapath_target_22748625\libmcfghthread-1.dll", "NAME NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a"

"16:24:51,8009457", "program2.exe", "14636", "CreateFile", "C:\Program Files\Common Files\Oracle\Java\javapath_target_22748625\libgcc_s_seh-1.dll", "NAME NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a"

"16:24:51,8012133", "program2.exe", "14636", "CreateFile", "C:\Program Files (x86)\Common Files\Oracle\Java\javapath_target_91359062\libmcfghthread-1.dll", "REPARSE", "Desired Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a, OpenResult: <unknown>"

"16:24:51,8020280", "program2.exe", "14636", "CreateFile", "C:\Program Files (x86)\Common Files\Oracle\Java\javapath_target_91359062\libgcc_s_seh-1.dll", "REPARSE", "Desired Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a, OpenResult: <unknown>"

"16:24:51,8024023", "program2.exe", "14636", "CreateFile", "C:\Program Files (x86)\Common Files\Oracle\Java\javapath_target_91359062\libmcfghthread-1.dll", "NAME NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a"

"16:24:51,8024490", "program2.exe", "14636", "CreateFile", "C:\Program Files (x86)\Common Files\Oracle\Java\javapath_target_91359062\libmcfghthread-1.dll", "REPARSE", "Desired Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a, OpenResult: <unknown>"

"16:24:51,8026246", "program2.exe", "14636", "QueryOpen", "D:\app\MayaSOATIANA\product\11

NOT FOUND", ""

"16:24:51,8031324", "program2.exe", "14636", "CreateFile", "C:\Program Files (x86)\Common Files\Oracle\Java\javapath_target_91359062\libgcc_s_seh-1.dll", "NAME NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a"

"16:24:51,8031585", "program2.exe", "14636", "CreateFile", "C:\Program Files\Java\jdk1.8.0_102\bin\server\jvmti.dll", "NAME NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a"

"16:24:51,8033963", "program2.exe", "14636", "CreateFile", "C:\Program Files (x86)\Common Files\Oracle\Java\javapath_target_91359062\libmcfghthread-1.dll", "NAME NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a"

"16:24:51,8034562", "program2.exe", "14636", "QueryOpen", "D:\app\MayaSOATIANA\product\11.5.0\bin\libmcfghthread-1.dll", "NAME NOT FOUND", ""

"16:24:51,8036239", "program2.exe", "14636", "QueryOpen", "D:\app\MayaSOATIANA\product\11.5.0\bin\libmcfghthread-1.dll", "NAME NOT FOUND", ""

"16:24:51,8039764", "program2.exe", "14636", "CreateFile", "C:\Program Files\Java\jdk1.8.0_102\bin\server\jvmti.dll", "NAME NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a"

"16:24:51,8041281", "program2.exe", "14636", "CreateFile", "C:\Program Files\Java\jdk1.8.0_102\bin\server\jvmti.dll", "NAME NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a"

"16:24:51,8045215", "program2.exe", "14636", "CreateFile", "C:\Windows\System32\libmcfghthread-1.dll", "NAME NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a"

"16:24:51,8050727", "program2.exe", "14636", "CreateFile", "C:\Windows\libmcfghthread-1.dll", "NAME NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a"

"16:24:51,8054838", "program2.exe", "14636", "CreateFile", "C:\Windows\System32\libmcfghthread-1.dll", "NAME NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a"

"16:24:51,8056343", "program2.exe", "14636", "CreateFile", "C:\Windows\System32\libgcc_s_seh-1.dll", "NAME NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a"

"16:24:51,8059794", "program2.exe", "14636", "CreateFile", "C:\Windows\System32\wbem\libmcfghthread-1.dll", "NAME NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a"

"16:24:51,8064276", "program2.exe", "14636", "CreateFile", "C:\Windows\libmcfghthread-1.dll", "NAME NOT FOUND", "Desired Access: Read Attributes, Disposition: Open, Options: Open Reparse Point, Attributes: n/a, ShareMode: Read, Write, Delete, AllocationSize: n/a"

n/a"

"16:24:51,8064522","program2.exe","14636","CreateFile","C:\Windows\libgcc_s_seh-1.dll
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"

"16:24:51,8067862","program2.exe","14636","CreateFile","C:\Windows\System32\WindowsPo
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"

"16:24:51,8071460","program2.exe","14636","CreateFile","C:\WINDOWS\System32\OpenSSH\
Files\Eclipse Adoptium\jdk-17.0.7.7-hotspot\bin\libmcfghthread-1.dll","NAME
INVALID","Desired Access: Read Attributes,Disposition: Open,Options: Open Reparse
Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:24:51,8073554","program2.exe","14636","CreateFile","C:\Windows\System32\wbem\libm
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"

"16:24:51,8076076","program2.exe","14636","CreateFile","C:\Windows\System32\wbem\libg
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"

"16:24:51,8076244","program2.exe","14636","CreateFile","C:\gcc14\mingw64\bin\libmcfgh
Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes:
n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a,OpenResult: Opened"

"16:24:51,8078912","program2.exe","14636","QueryBasicInformationFile","C:\gcc14\mingw
11/05/2024 22:08:58,LastAccessTime: 08/12/2025 16:22:38,LastWriteTime: 13/09/2025
16:40:11,ChangeTime: 13/09/2025 16:40:11,FileAttributes: A"

"16:24:51,8081372","program2.exe","14636","CreateFile","C:\Windows\System32\WindowsPo
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"

"16:24:51,8081678","program2.exe","14636","CreateFile","C:\Windows\System32\WindowsPo
NOT FOUND","Desired Access: Read Attributes,Disposition: Open,Options: Open
Reparse Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize:
n/a"

"16:24:51,8082387","program2.exe","14636","CloseFile","C:\gcc14\mingw64\bin\libmcfgh

"16:24:51,8086142","program2.exe","14636","CreateFile","C:\WINDOWS\System32\OpenSSH\
Files\Eclipse Adoptium\jdk-17.0.7.7-hotspot\bin\libmcfghthread-1.dll","NAME
INVALID","Desired Access: Read Attributes,Disposition: Open,Options: Open Reparse
Point,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"

"16:24:51,8087645","program2.exe","14636","CreateFile","C:\gcc14\mingw64\bin\libmcfgh
Access: Read Data/List Directory,Execute/Traverse,Synchronize,Disposition:
Open,Options: Synchronous IO Non-Alert,Non-Directory File,Attributes: n/a,ShareMode:
Read,Delete,AllocationSize: n/a,OpenResult: Opened"

"16:24:51,8088828","program2.exe","14636","QueryEaFile","C:\gcc14\mingw64\bin\libmcfgh

"16:24:51,8088986","program2.exe","14636","CreateFile","C:\WINDOWS\System32\OpenSSH\
Files\Eclipse Adoptium\jdk-17.0.7.7-hotspot\bin\libgcc_s_seh-1.dll","NAME INVALID","D
Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes:

n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a"
"16:24:51,8091490","program2.exe","14636","CreateFile","C:\gcc14\mingw64\bin\libmcfgt.
Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes:
n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a,OpenResult: Opened"
"16:24:51,8093125","program2.exe","14636","CreateFileMapping","C:\gcc14\mingw64\bin\l
LOCKED WITH ONLY READERS","SyncType: SyncTypeCreateSection,PageProtection:
PAGE_EXECUTE|PAGE_NOCACHE"
"16:24:51,8093936","program2.exe","14636","CreateFile","C:\gcc14\mingw64\bin\libgcc_s
Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes:
n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a,OpenResult: Opened"
"16:24:51,8094087","program2.exe","14636","QueryBasicInformationFile","C:\gcc14\mingw
11/05/2024 22:08:58,LastAccessTime: 08/12/2025 16:22:38,LastWriteTime: 13/09/2025
16:40:11,ChangeTime: 13/09/2025 16:40:11,FileAttributes: A"
"16:24:51,8095895","program2.exe","14636","QueryBasicInformationFile","C:\gcc14\mingw
12/05/2024 09:28:28,LastAccessTime: 08/12/2025 16:24:51,LastWriteTime: 13/09/2025
16:40:11,ChangeTime: 13/09/2025 16:40:11,FileAttributes: A"
"16:24:51,8097037","program2.exe","14636","CloseFile","C:\gcc14\mingw64\bin\libgcc_s_
"16:24:51,8097110","program2.exe","14636","CreateFileMapping","C:\gcc14\mingw64\bin\l
SyncTypeOther"
"16:24:51,8099108","program2.exe","14636","CloseFile","C:\gcc14\mingw64\bin\libmcfgt.
"16:24:51,8102919","program2.exe","14636","QueryEaFile","C:\gcc14\mingw64\bin\libmcfg
"16:24:51,8107812","program2.exe","14636","CreateFile","C:\gcc14\mingw64\bin\libmcfgt.
Access: Read Attributes,Synchronize,Disposition: Open,Options: Synchronous
IO Non-Alert,Non-Directory File,Attributes: n/a,ShareMode: Read,Write,Delete,Allocati
n/a,OpenResult: Opened"
"16:24:51,8109141","program2.exe","14636","CreateFile","C:\gcc14\mingw64\bin\libmcfgt.
Access: Read Data/List Directory,Execute/Traverse,Synchronize,Disposition:
Open,Options: Synchronous IO Non-Alert,Non-Directory File,Attributes: n/a,ShareMode:
Read,Delete,AllocationSize: n/a,OpenResult: Opened"
"16:24:51,8110679","program2.exe","14636","CloseFile","C:\gcc14\mingw64\bin\libmcfgt.
"16:24:51,8111667","program2.exe","14636","QueryEaFile","C:\gcc14\mingw64\bin\libmcfg
"16:24:51,8113772","program2.exe","14636","CreateFileMapping","C:\gcc14\mingw64\bin\l
LOCKED WITH ONLY READERS","SyncType: SyncTypeCreateSection,PageProtection:
PAGE_EXECUTE|PAGE_NOCACHE"
"16:24:51,8115989","program2.exe","14636","QueryStreamInformationFile","C:\gcc14\ming
::\$DATA,1: :Zone.Identifier::\$DATA"
"16:24:51,8116262","program2.exe","14636","CreateFileMapping","C:\gcc14\mingw64\bin\l
SyncTypeOther"
"16:24:51,8118226","program2.exe","14636","FileSystemControl","C:\gcc14\mingw64\bin\l
FSCTL_READ_FILE_USN_DATA"
"16:24:51,8119006","program2.exe","14636","QueryEaFile","C:\gcc14\mingw64\bin\libmcfg
"16:24:51,8119906","program2.exe","14636","Load Image","C:\gcc14\mingw64\bin\libmcfgt.
Base: 0x7fff62480000,Image Size: 0xf000"
"16:24:51,8123070","program2.exe","14636","RegOpenKey","HKCU","SUCCESS","Desired
Access: Maximum Allowed,Granted Access: All Access"
"16:24:51,8123478","program2.exe","14636","CreateFile","C:\gcc14\mingw64\bin\libmcfgt.
Access: Read Attributes,Synchronize,Disposition: Open,Options: Synchronous
IO Non-Alert,Non-Directory File,Attributes: n/a,ShareMode: Read,Write,Delete,Allocati

n/a,OpenResult: Opened"

"16:24:51,8125134","program2.exe","14636","CloseFile","C:\gcc14\mingw64\bin\libmcfgh

"16:24:51,8125821","program2.exe","14636","RegOpenKey","HKCU\Control Panel\Desktop\Mu

NOT FOUND","Desired Access: Read"

"16:24:51,8130222","program2.exe","14636","RegCloseKey","HKCU","SUCCESS",""

"16:24:51,8134058","program2.exe","14636","RegOpenKey","HKLM\Software\Policies\Micros

NOT FOUND","Desired Access: Read"

"16:24:51,8134273","program2.exe","14636","QueryStreamInformationFile","C:\gcc14\ming

::\$DATA,1: :Zone.Identifier:\$DATA"

"16:24:51,8136111","program2.exe","14636","RegOpenKey","HKCU","SUCCESS","Desired

Access: Maximum Allowed,Granted Access: All Access"

"16:24:51,8137370","program2.exe","14636","FileSystemControl","C:\gcc14\mingw64\bin\l

FSCTL_READ_FILE_USN_DATA"

"16:24:51,8138122","program2.exe","14636","RegOpenKey","HKCU\Software\Policies\Micros

Panel\Desktop","NAME NOT FOUND","Desired Access: Read"

"16:24:51,8140303","program2.exe","14636","Load Image","C:\gcc14\mingw64\bin\libmcfgh

Base: 0x25085af0000,Image Size: 0xf000"

"16:24:51,8140848","program2.exe","14636","RegOpenKey","HKCU\Control Panel\Desktop\La

Access: Read"

"16:24:51,8141613","program2.exe","14636","CloseFile","C:\gcc14\mingw64\bin\libmcfgh

"16:24:51,8142834","program2.exe","14636","RegEnumValue","HKCU\Control Panel\Desktop\

0,Name: fr-FR,Type: REG_MULTI_SZ,Length: 14,Data: en-US"

"16:24:51,8144118","program2.exe","14636","RegEnumValue","HKCU\Control Panel\Desktop\

MORE ENTRIES","Index: 1,Length: 512"

"16:24:51,8144594","program2.exe","14636","RegCloseKey","HKCU\Control Panel\Desktop\L

"16:24:51,8146471","program2.exe","14636","RegCloseKey","HKCU","SUCCESS",""

"16:24:51,8152656","program2.exe","14636","RegOpenKey","HKLM\Software\Policies\Micros

NOT FOUND","Desired Access: Read"

"16:24:51,8153576","program2.exe","14636","RegOpenKey","HKCU","SUCCESS","Desired

Access: Maximum Allowed,Granted Access: All Access"

"16:24:51,8156985","program2.exe","14636","RegOpenKey","HKCU\Software\Policies\Micros

Panel\Desktop","NAME NOT FOUND","Desired Access: Read"

"16:24:51,8157658","program2.exe","14636","RegOpenKey","HKCU\Control Panel\Desktop","

Access: Read"

"16:24:51,8159733","program2.exe","14636","RegQueryValue","HKCU\Control Panel\Desktop

OVERFLOW","Length: 12"

"16:24:51,8160736","program2.exe","14636","RegQueryValue","HKCU\Control Panel\Desktop

REG_MULTI_SZ,Length: 14,Data: fr-FR"

"16:24:51,8163210","program2.exe","14636","RegCloseKey","HKCU\Control Panel\Desktop",

"16:24:51,8164078","program2.exe","14636","RegCloseKey","HKCU","SUCCESS",""

"16:24:51,8166284","program2.exe","14636","RegOpenKey","HKLM\Software\Policies\Micros

NOT FOUND","Desired Access: Read"

"16:24:51,8167493","program2.exe","14636","RegOpenKey","HKCU","SUCCESS","Desired

Access: Maximum Allowed,Granted Access: All Access"

"16:24:51,8168758","program2.exe","14636","RegOpenKey","HKCU\Control Panel\Desktop\Mu

Access: Read"

"16:24:51,8170149","program2.exe","14636","RegQueryValue","HKCU\Control Panel\Desktop

OVERFLOW","Length: 12"

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"16:24:51,8172118","program2.exe","14636","RegQueryValue","HKCU\\Control Panel\\Desktop\\REG_MULTI_SZ,Length: 12,Data: fr-FR"
"16:24:51,8174392","program2.exe","14636","RegCloseKey","HKCU\\Control Panel\\Desktop\\M
"16:24:51,8174878","program2.exe","14636","RegCloseKey","HKCU","SUCCESS",""
"16:24:51,8178062","program2.exe","14636","RegOpenKey","HKLM\\Software\\Policies\\Microso
NOT FOUND","Desired Access: Read"
"16:24:51,8179521","program2.exe","14636","RegOpenKey","HKCU","SUCCESS","Desired
Access: Maximum Allowed,Granted Access: All Access"
"16:24:51,8182530","program2.exe","14636","RegOpenKey","HKCU\\Software\\Policies\\Microso
Panel\\Desktop","NAME NOT FOUND","Desired Access: Read"
"16:24:51,8184542","program2.exe","14636","RegOpenKey","HKCU\\Control Panel\\Desktop","
Access: Read"
"16:24:51,8190870","program2.exe","14636","RegQueryValue","HKCU\\Control Panel\\Desktop\\
OVERFLOW","Length: 12"
"16:24:51,8193798","program2.exe","14636","RegQueryValue","HKCU\\Control Panel\\Desktop\\
REG_MULTI_SZ,Length: 14,Data: fr-FR"
"16:24:51,8195307","program2.exe","14636","RegCloseKey","HKCU\\Control Panel\\Desktop",
"16:24:51,8196821","program2.exe","14636","RegCloseKey","HKCU","SUCCESS",""
"16:24:51,8197602","program2.exe","14636","RegOpenKey","HKLM\\Software\\Policies\\Microso
NOT FOUND","Desired Access: Read"
"16:24:51,8201620","program2.exe","14636","RegOpenKey","HKCU","SUCCESS","Desired
Access: Maximum Allowed,Granted Access: All Access"
"16:24:51,8204792","program2.exe","14636","RegOpenKey","HKCU\\Software\\Policies\\Microso
Panel\\Desktop","NAME NOT FOUND","Desired Access: Read"
"16:24:51,8206975","program2.exe","14636","RegOpenKey","HKCU\\Control Panel\\Desktop\\La
Access: Read"
"16:24:51,8209274","program2.exe","14636","RegEnumValue","HKCU\\Control Panel\\Desktop\\
0,Name: fr-FR,Type: REG_MULTI_SZ,Length: 14,Data: en-US"
"16:24:51,8214875","program2.exe","14636","RegEnumValue","HKCU\\Control Panel\\Desktop\\
MORE ENTRIES","Index: 1,Length: 512"
"16:24:51,8217113","program2.exe","14636","RegCloseKey","HKCU\\Control Panel\\Desktop\\L
"16:24:51,8217858","program2.exe","14636","RegCloseKey","HKCU","SUCCESS",""
"16:24:51,8221006","program2.exe","14636","RegOpenKey","HKLM\\Software\\Microsoft\\Windo
Access: Read"
"16:24:51,8224917","program2.exe","14636","RegQueryValue","HKLM\\SOFTWARE\\Microsoft\\Wi
NOT FOUND","Length: 20"
"16:24:51,8227073","program2.exe","14636","RegCloseKey","HKLM\\SOFTWARE\\Microsoft\\Wind
"16:24:51,8229380","program2.exe","14636","CreateFile","C:\\gcc14\\mingw64\\bin\\libmcfgt
Access: Generic Read,Disposition: Open,Options: Synchronous IO Non-Alert,Non-Directory
File,Attributes: n/a,ShareMode: Read,Delete,AllocationSize: n/a,OpenResult:
Opened"
"16:24:51,8254618","program2.exe","14636","CloseFile","C:\\gcc14\\mingw64\\bin\\libmcfgt
"16:24:51,8258643","program2.exe","14636","CloseFile","C:\\gcc14\\mingw64\\bin\\libmcfgt
"16:24:51,8276354","program2.exe","14636","RegOpenKey","HKLM\\System\\CurrentControlSet
Manager","REPARSE","Desired Access: Query Value"
"16:24:51,8278024","program2.exe","14636","RegOpenKey","HKLM\\System\\CurrentControlSet
Manager","SUCCESS","Desired Access: Query Value"
"16:24:51,8279562","program2.exe","14636","RegQueryValue","HKLM\\System\\CurrentControl
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Manager\SmtDelaySleepLoopWindowSize", "NAME NOT FOUND", "Length: 80"
"16:24:51,8283221", "program2.exe", "14636", "RegQueryValue", "HKLM\System\CurrentControl
Manager\SmtDelaySpinCountThreshold", "NAME NOT FOUND", "Length: 80"
"16:24:51,8284042", "program2.exe", "14636", "RegQueryValue", "HKLM\System\CurrentControl
Manager\SmtDelayBaseYield", "NAME NOT FOUND", "Length: 80"
"16:24:51,8286503", "program2.exe", "14636", "RegQueryValue", "HKLM\System\CurrentControl
Manager\SmtFactorYield", "NAME NOT FOUND", "Length: 80"
"16:24:51,8290080", "program2.exe", "14636", "RegQueryValue", "HKLM\System\CurrentControl
Manager\SmtDelayMaxYield", "NAME NOT FOUND", "Length: 80"
"16:24:51,8292474", "program2.exe", "14636", "RegCloseKey", "HKLM\System\CurrentControlSe
Manager", "SUCCESS", ""
"16:24:51,8296566", "program2.exe", "14636", "QueryNameInformationFile", "D:\MAI-year2\os
\MAI-year2\os\os_lab4\build\bin\program2.exe"
"16:24:51,8300105", "program2.exe", "14636", "QueryOpen", "D:\MAI-year2\os\os_lab4\build\
08/12/2025 15:12:06,LastAccessTime: 08/12/2025 16:22:38,LastWriteTime: 08/12/2025
15:12:06,ChangeTime: 08/12/2025 15:12:06,AllocationSize: 57344,EndOfFile: 54995,FileA
A"
"16:24:51,8303232", "program2.exe", "14636", "CreateFile", "D:\MAI-year2\os\os_lab4\build
Access: Read Data/List Directory,Execute/Traverse,Synchronize,Disposition:
Open,Options: Synchronous IO Non-Alert,Non-Directory File,Attributes: n/a,ShareMode:
Read,Delete,AllocationSize: n/a,OpenResult: Opened"
"16:24:51,8304596", "program2.exe", "14636", "FileSystemControl", "D:\MAI-year2\os\os_lab
DEVICE REQUEST", "Control: 0x90390 (Device:0x9 Function:228 Method: 0)"
"16:24:51,8305407", "program2.exe", "14636", "QueryBasicInformationFile", "D:\MAI-year2\o
08/12/2025 15:12:06,LastAccessTime: 08/12/2025 16:22:38,LastWriteTime: 08/12/2025
15:12:06,ChangeTime: 08/12/2025 15:12:06,FileAttributes: A"
"16:24:51,8306691", "program2.exe", "14636", "FileSystemControl", "D:\MAI-year2\os\os_lab
DEVICE REQUEST", "Control: 0x90390 (Device:0x9 Function:228 Method: 0)"
"16:24:51,8308296", "program2.exe", "14636", "QueryAttributeInformationVolume", "D:\MAI-y
Case Preserved,Case Sensitive,Unicode,ACLs,Compression,Named Streams,EFS,Object
IDs,Reparse Points,Sparse Files,Quotas,Transactions,0x3c02e00,MaximumComponentNameLen
255,FileSystemName: NTFS"
"16:24:51,8315673", "program2.exe", "14636", "CreateFileMapping", "D:\MAI-year2\os\os_lab
LOCKED WITH ONLY READERS", "SyncType: SyncTypeCreateSection,PageProtection:
PAGE_EXECUTE|PAGE_NOCACHE"
"16:24:51,8318498", "program2.exe", "14636", "CreateFileMapping", "D:\MAI-year2\os\os_lab
SyncTypeOther"
"16:24:51,8321820", "program2.exe", "14636", "FileSystemControl", "D:\MAI-year2\os\os_lab
DEVICE REQUEST", "Control: 0x90390 (Device:0x9 Function:228 Method: 0)"
"16:24:51,8322829", "program2.exe", "14636", "QueryBasicInformationFile", "D:\MAI-year2\o
08/12/2025 15:12:06,LastAccessTime: 08/12/2025 16:22:38,LastWriteTime: 08/12/2025
15:12:06,ChangeTime: 08/12/2025 15:12:06,FileAttributes: A"
"16:24:51,8323850", "program2.exe", "14636", "FileSystemControl", "D:\MAI-year2\os\os_lab
DEVICE REQUEST", "Control: 0x90390 (Device:0x9 Function:228 Method: 0)"
"16:24:51,8327278", "program2.exe", "14636", "QueryAttributeInformationVolume", "D:\MAI-y
Case Preserved,Case Sensitive,Unicode,ACLs,Compression,Named Streams,EFS,Object
IDs,Reparse Points,Sparse Files,Quotas,Transactions,0x3c02e00,MaximumComponentNameLen
255,FileSystemName: NTFS"

"16:24:51,8329319","program2.exe","14636","CreateFile","D:\MAI-year2\os\os_lab4\build\
Access: Read Attributes,Synchronize,Disposition: Open,Options: Synchronous
IO Non-Alert,Non-Directory File,Attributes: n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a,OpenResult: Opened"
"16:24:51,8332185","program2.exe","14636","CloseFile","D:\MAI-year2\os\os_lab4\build\
"16:24:51,8334689","program2.exe","14636","QueryStreamInformationFile","D:\MAI-year2\os\os_lab4\build\
::\$DATA"
"16:24:51,8336107","program2.exe","14636","FileSystemControl","D:\MAI-year2\os\os_lab4\build\
FSCTL_READ_FILE_USN_DATA"
"16:24:51,8339548","program2.exe","14636","Load Image","D:\MAI-year2\os\os_lab4\build\
Base: 0x7fff5d300000,Image Size: 0x16000"
"16:24:51,8341680","program2.exe","14636","CloseFile","D:\MAI-year2\os\os_lab4\build\
"16:25:09,3100899","program2.exe","14636","QueryOpen","D:\MAI-year2\os\os_lab4\build\
08/12/2025 14:54:04,LastAccessTime: 08/12/2025 15:44:01,LastWriteTime: 08/12/2025
14:54:04,ChangeTime: 08/12/2025 14:54:04,AllocationSize: 73728,EndOfFile: 72088,FileAttributes: A"
"16:25:09,3102136","program2.exe","14636","CreateFile","D:\MAI-year2\os\os_lab4\build\
Access: Read Data/List Directory,Execute/Traverse,Synchronize,Disposition:
Open,Options: Synchronous IO Non-Alert,Non-Directory File,Attributes: n/a,ShareMode:
Read,Delete,AllocationSize: n/a,OpenResult: Opened"
"16:25:09,3102918","program2.exe","14636","FileSystemControl","D:\MAI-year2\os\os_lab4\build\
DEVICE REQUEST","Control: 0x90390 (Device:0x9 Function:228 Method: 0)"
"16:25:09,3104925","program2.exe","14636","QueryBasicInformationFile","D:\MAI-year2\os\os_lab4\build\
08/12/2025 14:54:04,LastAccessTime: 08/12/2025 15:44:01,LastWriteTime: 08/12/2025
14:54:04,ChangeTime: 08/12/2025 14:54:04,FileAttributes: A"
"16:25:09,3105571","program2.exe","14636","FileSystemControl","D:\MAI-year2\os\os_lab4\build\
DEVICE REQUEST","Control: 0x90390 (Device:0x9 Function:228 Method: 0)"
"16:25:09,3105990","program2.exe","14636","QueryAttributeInformationVolume","D:\MAI-year2\os\os_lab4\build\
Case Preserved,Case Sensitive,Unicode,ACLs,Compression,Named Streams,EFS,Object
IDs,Reparse Points,Sparse Files,Quotas,Transactions,0x3c02e00,MaximumComponentNameLength: 255,FileSystemName: NTFS"
"16:25:09,3108576","program2.exe","14636","CreateFileMapping","D:\MAI-year2\os\os_lab4\build\
LOCKED WITH ONLY READERS","SyncType: SyncTypeCreateSection,PageProtection:
PAGE_EXECUTE|PAGE_NOCACHE"
"16:25:09,3108955","program2.exe","14636","QueryStandardInformationFile","D:\MAI-year2\os\os_lab4\build\
73728,EndOfFile: 72088,NumberOfLinks: 1,DeletePending: False,Directory: False"
"16:25:09,3110851","program2.exe","14636","ReadFile","D:\MAI-year2\os\os_lab4\build\
0,Length: 72088,I/O Flags: Non-cached,Paging I/O,Synchronous Paging I/O,Priority:
Normal"
"16:25:09,3245022","program2.exe","14636","CreateFileMapping","D:\MAI-year2\os\os_lab4\build\
SyncTypeOther"
"16:25:09,3246690","program2.exe","14636","FileSystemControl","D:\MAI-year2\os\os_lab4\build\
DEVICE REQUEST","Control: 0x90390 (Device:0x9 Function:228 Method: 0)"
"16:25:09,3247524","program2.exe","14636","QueryBasicInformationFile","D:\MAI-year2\os\os_lab4\build\
08/12/2025 14:54:04,LastAccessTime: 08/12/2025 15:44:01,LastWriteTime: 08/12/2025
14:54:04,ChangeTime: 08/12/2025 14:54:04,FileAttributes: A"
"16:25:09,3248042","program2.exe","14636","FileSystemControl","D:\MAI-year2\os\os_lab4\build\
DEVICE REQUEST","Control: 0x90390 (Device:0x9 Function:228 Method: 0)"

"16:25:09,3248404","program2.exe","14636","QueryAttributeInformationVolume","D:\MAI-y
Case Preserved,Case Sensitive,Unicode,ACLs,Compression,Named Streams,EFS,Object
IDs,Reparse Points,Sparse Files,Quotas,Transactions,0x3c02e00,MaximumComponentNameLen,
255,FileSystemName: NTFS"

"16:25:09,3249086","program2.exe","14636","QueryStreamInformationFile","D:\MAI-year2\
::\$DATA"

"16:25:09,3250013","program2.exe","14636","FileSystemControl","D:\MAI-year2\os\os_lab
FSCTL_READ_FILE_USN_DATA"

"16:25:09,3250846","program2.exe","14636","Load Image","D:\MAI-year2\os\os_lab4\build
Base: 0x7fff5d300000,Image Size: 0x17000"

"16:25:09,3252518","program2.exe","14636","CloseFile","D:\MAI-year2\os\os_lab4\build\
"16:25:22,5396828","program2.exe","14636","CreateFile","C:\Windows\System32\kernel.ap
Access: Read Attributes,Disposition: Open,Options: Open Reparse Point,Attributes:
n/a,ShareMode: Read,Write,Delete,AllocationSize: n/a,OpenResult: Opened"

"16:25:22,5398324","program2.exe","14636","QueryBasicInformationFile","C:\Windows\Sys
15/11/2025 17:03:49,LastAccessTime: 08/12/2025 16:25:14,LastWriteTime: 15/11/2025
17:03:49,ChangeTime: 01/12/2025 02:25:32,FileAttributes: A"

"16:25:22,5398821","program2.exe","14636","CloseFile","C:\Windows\System32\kernel.app
"16:25:22,5402521","program2.exe","14636","CreateFile","C:\Windows\System32\kernel.ap
Access: Read Data/List Directory,Execute/Traverse,Synchronize,Disposition:
Open,Options: Synchronous IO Non-Alert,Non-Directory File,Attributes: n/a,ShareMode:
Read,Delete,AllocationSize: n/a,OpenResult: Opened"

"16:25:22,5404030","program2.exe","14636","CreateFileMapping","C:\Windows\System32\ke
LOCKED WITH ONLY READERS","SyncType: SyncTypeCreateSection,PageProtection:
PAGE_EXECUTE|PAGE_NOCACHE"

"16:25:22,5406168","program2.exe","14636","CreateFileMapping","C:\Windows\System32\ke
SyncTypeOther"

"16:25:22,5412608","program2.exe","14636","Load Image","C:\Windows\System32\kernel.ap
Base: 0x7fff646b0000,Image Size: 0x1b000"

"16:25:22,5417214","program2.exe","14636","Load Image","C:\Windows\System32\msvcrt.dl
Base: 0x7fff67420000,Image Size: 0xa9000"

"16:25:22,5419906","program2.exe","14636","CloseFile","C:\Windows\System32\kernel.app
"16:25:22,5424826","program2.exe","14636","RegOpenKey","HKLM\System\CurrentControlSet
Access: Read"

"16:25:22,5428176","program2.exe","14636","RegOpenKey","HKLM\System\CurrentControlSet
Access: Read"

"16:25:22,5428583","program2.exe","14636","RegQueryValue","HKLM\System\CurrentControl
REG_SZ,Length: 18,Data: 00060502"

"16:25:22,5431020","program2.exe","14636","RegQueryValue","HKLM\System\CurrentControl
REG_SZ,Length: 26,Data: kernel32.dll"

"16:25:22,5433870","program2.exe","14636","Thread Exit","", "SUCCESS", "Thread
ID: 6544,User Time: 0.0156250,Kernel Time: 0.0312500"

"16:25:22,5433968","program2.exe","14636","Thread Exit","", "SUCCESS", "Thread
ID: 23512,User Time: 0.0156250,Kernel Time: 0.0156250"

"16:25:22,5434524","program2.exe","14636","Thread Exit","", "SUCCESS", "Thread
ID: 16620,User Time: 0.0000000,Kernel Time: 0.0312500"

"16:25:22,5435574","program2.exe","14636","Thread Exit","", "SUCCESS", "Thread
ID: 17872,User Time: 0.0312500,Kernel Time: 0.0000000"

"16:25:22,5439544","program2.exe","14636","Process Exit","", "SUCCESS", "Exit
Status: 0, User Time: 0.0625000 seconds, Kernel Time: 0.0781250 seconds, Private
Bytes: 950272, Peak Private Bytes: 950272, Working Set: 5050368, Peak Working
Set: 5050368"

"16:25:22,5440160","program2.exe","14636","RegOpenKey", "HKLM\System\CurrentControlSet
Access: All Access"

"16:25:22,5440865","program2.exe","14636","RegQueryValue", "HKLM\System\CurrentControl
NOT FOUND", "Length: 40"

"16:25:22,5441255","program2.exe","14636","RegCloseKey", "HKLM\System\CurrentControlSe

"16:25:22,5442054","program2.exe","14636","RegCloseKey", "HKLM\SOFTWARE\Microsoft\Wind
NT\CurrentVersion\Image File Execution Options", "SUCCESS", ""

"16:25:22,5442615","program2.exe","14636","CloseFile", "D:\MAI-year2\os\os_lab4\build"

"16:25:22,5444567","program2.exe","14636","RegCloseKey", "HKLM\System\CurrentControlSe
Manager", "SUCCESS", ""

"16:25:22,5444850","program2.exe","14636","RegCloseKey", "HKLM\System\CurrentControlSe