

# 1. File Operations Functions for the GBVM Library

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**File:** `univ_fileops.h`

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The `univ_fileops.h` file contains utility functions for performing essential file operations. All functions display informative error messages and terminate execution if a critical error is encountered.

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## 1.2. Function Documentation

### 1.2.1. `FILE* openFile(const char* filePath, const char* mode)`

**Description:**

Opens a file with the specified file path and mode. If the file cannot be opened, an error message is displayed, and the program exits.

**Parameters:**

Parameter	Type	Description
<code>filePath</code>	<code>const char*</code>	The path of the file to be opened.
<code>mode</code>	<code>const char*</code>	The mode in which to open the file.

**Returns:**

A pointer to the opened file (`FILE*`).

**Behavior:**

- Exits the program if the file cannot be opened.
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### 1.2.2. `void closeFile(const char* filePath, FILE* file)`

**Description:**

Closes the specified file. If the file pointer is `NULL`, the function safely returns without performing any operations. If the file cannot be closed, an error message is displayed, and the program exits.

**Parameters:**

Parameter	Type	Description
<code>filePath</code>	<code>const char*</code>	The path of the file to be closed.
<code>file</code>	<code>FILE*</code>	A pointer to the file to be closed.

**Returns:**

None.

**Behavior:**

- Safely handles `NULL` file pointers.
- Exits the program if the file cannot be closed.

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### 1.2.3. `int getFileSize(FILE* f, const char* filePath)`

**Description:**

Gets the size of the specified file in bytes. If the file pointer is `NULL` or an error occurs while reading the file, an error message is displayed, and the program exits.

**Parameters:**

Parameter	Type	Description
<code>f</code>	<code>FILE*</code>	A pointer to the file.
<code>filePath</code>	<code>const char*</code>	The path of the file.

**Returns:**

The size of the file in bytes (`int`).

**Behavior:**

- Exits the program if the file pointer is `NULL` or an error occurs during size calculation.

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## 1.3. Example Usage

```
#include "univ_fileops.h"
#include <stdio.h>

int main() {
    const char* filePath = "example.txt";
    FILE* file = openFile(filePath, "r");

    int size = getFileSize(file, filePath);
    printf("Size of '%s': %d bytes\n", filePath, size);
}
```

```
closeFile(filePath, file);  
return 0;  
}
```