# EXPERIMENT-2

**Identify the system calls to copy the content of one file to another and illustrate the same using a C program.**

## AIM:-

To copy the content of one file to another using system calls in a C program.

## ALGORITHM:-

1.  Start the program.

2.  Use the open() system call to open the source file in read mode.

3.  Use the open() system call to create or open the destination file in write mode.

4.  Use the read() system call to read data from the source file into a buffer.

5.  Use the write() system call to write the data from the buffer into the destination file.

6.  Repeat steps 4 and 5 until the entire file content is copied.

7.  Close both files using the close() system call.

8.  End the program.**.**

## CODE:-

```
#include <stdio.h>

#include <fcntl.h>

#include <unistd.h>

#include <stdlib.h>

#define BUFFER_SIZE 1024

int main(int argc, char *argv[]) {

    int src_fd, dest_fd;      // File descriptors for source and destination files

    ssize_t bytes_read, bytes_written;

    char buffer[BUFFER_SIZE]; // Buffer to store file content
```

```c
// Check for correct usage

if (argc != 3) {

    fprintf(stderr, "Usage: %s <source_file> <destination_file>\n", argv[0]);

    return 1;

}

// Open the source file in read-only mode

src_fd = open(argv[1], O_RDONLY);

if (src_fd < 0) {

    perror("Error opening source file");

    return 1;

}

// Open/Create the destination file in write-only mode with appropriate permissions

dest_fd = open(argv[2], O_WRONLY | O_CREAT | O_TRUNC, 0644);

if (dest_fd < 0) {

    perror("Error opening/creating destination file");

    close(src_fd);

    return 1;

}

// Copy content from source file to destination file

while ((bytes_read = read(src_fd, buffer, BUFFER_SIZE)) > 0) {

    bytes_written = write(dest_fd, buffer, bytes_read);

    if (bytes_written != bytes_read) {

        perror("Error writing to destination file");

        close(src_fd);
```

```
        close(dest_fd);

        return 1;

      }

    }

    if (bytes_read < 0) {

      perror("Error reading source file");

    }

    // Close both files

    close(src_fd);

    close(dest_fd);

    printf("File copy successful.\n");

    return 0;

}}
```
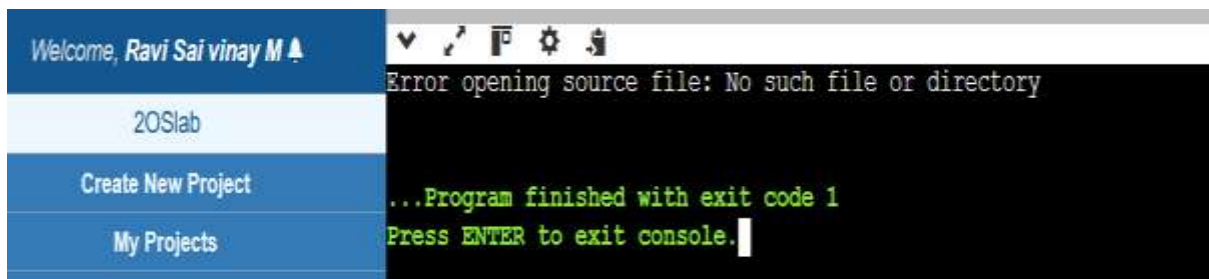
## OUTPUT:-



## RESULT:-

The content of the source file was successfully copied to the destination file using system calls (open, read, write, and close) in a C program.