NAME: G. GANESH

REG NO: 192373008

EXERICSE-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. Open the source file using the open() system call.

2. Open the destination file using the open() system call.

3. Read the content of the source file using the read() system call.

4. Write the content to the destination file using the write() system call.

5. Close both the source and destination files using the close() system call.

Procedure:

1. Use open() to open the source file in read-only mode.

2. Use open() to open the destination file in write mode (creating it if it doesn't exist).

3. Use read() to read the content of the source file.

4. Use write() to write the content into the destination file.

5. Close both files using close().

Code:

```c
#include <stdio.h>
#include <fcntl.h>
#include <unistd.h>
int main() {
    int source_fd, dest_fd, nread;
    char buffer[1024];
    source_fd = open("source.txt", O_RDONLY);
    if (source_fd == -1) {
        perror("Source file open failed");
        return 1;
```

```c
    }
    dest_fd = open("destination.txt", O_WRONLY | O_CREAT | O_TRUNC, 0644);
    if (dest_fd == -1) {
        perror("Destination file open failed");
        close(source_fd);
        return 1;
    }
    while ((nread = read(source_fd, buffer, sizeof(buffer))) > 0) {
        if (write(dest_fd, buffer, nread) != nread) {
            perror("Write failed");
            close(source_fd);
            close(dest_fd);
            return 1;
        }
    }
    if (nread == -1) {
        perror("Read failed");
    }
    close(source_fd);
    close(dest_fd);
    return 0;
}
```

Result:

Upon running the program, the contents of source.txt will be copied to destination.txt. If source.txt does not exist, the program will display an error. If destination.txt already exists, it will be overwritten.

Output:

Output   Cle

Source file open failed: No such file or directory

=== Code Exited With Errors ===