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 like open(), read(), write(), and close() in C.

Procedure:

1. Open the source file using open().
2. Open or create the destination file using open().
3. Read from the source file using read().
4. Write the content to the destination file using write().
5. Close both files using close().

C Program:

```
#include <stdio.h>
#include <fcntl.h>
#include <unistd.h>
int main() {
   int source, dest;
   char buffer[1024];
   ssize_t bytesRead, bytesWritten;
   // Open source file for reading
   source = open("source.txt", O_RDONLY);
   if (source == -1) {
      perror("Failed to open source file");
      return 1;
   }

   // Open destination file for writing
   dest = open("destination.txt", O_WRONLY | O_CREAT, 0644);
   if (dest == -1) {
      perror("Failed to open destination file");
```

```
        close(source);
        return 1;
    }
    while ((bytesRead = read(source, buffer, sizeof(buffer))) > 0) {
        bytesWritten = write(dest, buffer, bytesRead);
        if (bytesWritten != bytesRead) {
            perror("Write error");
            close(source);
            close(dest);
            return 1;
        }
    }
    if (bytesRead == -1) {
        perror("Read error");
    }
    close(source);
    close(dest);
    printf("File copied successfully!\n");
    return 0;
}
```

Output:

Assuming the source file contains some text, it will be copied to destination.txt.

```
Output

Failed to open source file: No such file or directory
```