Let's Copy Files

This time, we need to copy or append or delete contents of one file to another file in our system. You have to write a program that takes three arguments as parameters, file1 (destination file), file2 (source file) and an integer type. Type can assume three values, 0 for appending and 1 for over-writing and 2 for deleting. If type is 0 or 1, Your program should copy/append the contents of source file (if it does not exists, gracefully print error) to the destination file (if doesn't already exists, then create one). There may be several processes trying to copy contents from same source file, or to the same destination file. You need to use File Locks to ensure atomicity of operations and avoid racing conditions. That is, at test time, I may invoke your program several times in parallel and read or write to same file, and the contents of files (both source and destination) should be consistent and not random. If type is 2, you need to delete both the files file1 and file2 from system (if they exist). Note that deletion, append and over-writing all may happen on the same file at same time during testing. So, you again need Locks to ensure every operation finishes successfully, and race conditions between several processes don't occur.

Important Notes

- You are free to use any programming language of your choice.
- Your code will also be tested on how you handle error conditions, and how frequently your program crashes.
- File paths will be given as relative addresses to current directory.
- All three arguments will be given as command-line arguments
- File size can be arbitrary (as large as 1GB), so handle race conditions correctly.