

```

#include <stdio.h>    // FILE, size_t, perror, f* I/O functions
#include <stdlib.h>   // size_t, EXIT_FAILURE, EXIT_SUCCESS

#define READBUFSIZE 128

/* Copy a file byte-by-byte one user buffer size at a time */
int main(int argc, char** argv) {
    FILE* fin;
    FILE* fout;
    char readbuf[READBUFSIZE];
    size_t readlen;

    // Take the filenames from command line arguments
    if (argc != 3) {
        fprintf(stderr, "usage: ./cp_example infile outfile\n");
        return EXIT_FAILURE;
    }

    // Open the input file
    fin = fopen(argv[1], "rb"); // "rb" --> read, binary mode
    if (fin == NULL) {
        perror("fopen for read failed");
        return EXIT_FAILURE;
    }

    // Open the output file
    fout = fopen(argv[2], "wb"); // "wb" --> truncate & write, binary mode
    if (fout == NULL) {
        perror("fopen for write failed");
        fclose(fin);
        return EXIT_FAILURE;
    }

    // Read from the file, write to fout.
    while ((readlen = fread(readbuf, 1, READBUFSIZE, fin)) > 0) {
        // Test to see if we encountered an error while reading.
        if (ferror(fin)) {
            perror("fread failed");
            fclose(fin);
            fclose(fout);
            return EXIT_FAILURE;
        }
        if (fwrite(readbuf, 1, readlen, fout) < readlen) {
            perror("fwrite failed");
            fclose(fin);
            fclose(fout);
            return EXIT_FAILURE;
        }
    }

    // No need to error-check fclose - usually called just before exiting.
    // From man page: "In either case [success or failure], any further access
    // (including another call to fclose()) to the stream results in undefined
    // behavior."
    fclose(fin);
    fclose(fout);

    return EXIT_SUCCESS;
}

```