

1 Dec2Bin

Write a program 'd2b' to convert an integer to its binary representation.

```
./d2b
123
11110001001000000
```

2 Copy

Write a program 'mycp' that creates a copy of a file.

```
1 ./mycp source destination
```

For this task, your program should repeatedly read a block of data from the source into a buffer and then write the block to the destination file.

You should look into how to read and write binary data using `fread` and `fwrite`.

Test it on a large file and investigate how buffer size effects the performance.

3 Word, Line, and Character Count

Write a program `wlc_count` that reads from a user-specified text file and displays the number of lines, words, and characters contained in it. If no input file is specified, read from standard input (`stdin`). You will print to the standard error (e.g., using `fprintf(stderr, ...)`).

- A **line** is defined as a string of characters delimited by a `<newline>` character. Characters beyond the final `<newline>` character will not be included in the line count. The `<newline>` marker is the character `'\n'`.
- A **word** is defined as a string of characters delimited by white space characters. White space characters are the set of characters for which the `isspace` function (see `man 3 isspace`) returns true.

Example Usage:

- `cat moo.txt | wlc_count` will report stats reading from `stdin`, which is reading `moo.txt` through a pipe.
- `wlc_count hello.nnan` will report stats reading from `hello.nnan`.

The output of your program will go to `stderr`.