```c
#include <stdint.h>
#include <stdio.h>
#include <stdlib.h>

// Number of bytes in .wav header
const int HEADER_SIZE = 44;

typedef uint8_t BYTE;
typedef int16_t WAV;

int main(int argc, char *argv[])
{
    // Check command-line arguments
    if (argc != 4)
    {
        printf("Usage: ./volume input.wav output.wav factor\n");
        return 1;
    }

    // Open files and determine scaling factor
    FILE *input = fopen(argv[1], "r");
    if (input == NULL)
    {
        printf("Could not open file.\n");
        return 1;
    }

    FILE *output = fopen(argv[2], "w");

    if (output == NULL)
    {
        printf("Could not open file.\n");
        return 1;
    }

    float factor = atof(argv[3]);

    BYTE header[HEADER_SIZE];
    WAV sound;

    // TODO: Copy header from input file to output file
    fread(header, sizeof(BYTE), HEADER_SIZE, input);
    fwrite(header, sizeof(BYTE), HEADER_SIZE, output);

    // TODO: Read samples from input file and write updated data to
output file
    while(fread(&sound, sizeof(WAV), 1, input))
    {
        sound = sound * factor;
```

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            fwrite(&sound, sizeof(WAV), 1, output);
        }

        // Close files
        fclose(input);
        fclose(output);
    }
```