

reverse.c

My implementation of the reverse utility in C. It has support for all three of the requirements in the assignment.

- `./reverse`  
Reads from stdin and writes reversed lines to stdout.
- `./reverse input.txt`  
Reads from input.txt and prints the reversed lines to stdout
- `./reverse input.txt output.txt`  
Reads from input.txt and writes the reversed lines to output.txt

The implementation uses `getline()` to safely read arbitrarily long lines, stores each line on a linked list and then prints the list to produce the reversed output. The program checks the error cases as required by the assignment and prints the exact error messages before exiting with code 1.

Repository URL:

<https://github.com/LUTVeeti/K-ytt-j-rjestelm-t-ja-systeemiohjelmointi-projektit.git>

Compile:

`Gcc -std=c11 -Wall -Wextra -o reverse reverse.c`

Examples:

```
≡ input.txt
1  hello
2  this
3  is
4  a file
```

```
./reverse input.txt output.txt
```

```
≡ output.txt
1  a file
2  is
3  this
4  hello
```

Error cases:

```
⊗ veethicc@VeetinTykki:~/systemiohjelmointi$ ./reverse a b c
usage: reverse <input> <output>
```

```
⊗ veethicc@VeetinTykki:~/systemiohjelmointi$ ./reverse input.txt input.txt
Input and output file must differ
```

```
⊗ veethicc@VeetinTykki:~/systemiohjelmointi$ ./reverse nonexistent.txt
error: cannot open file 'nonexistent.txt'
```