Dog.c Design Document

Goals and Functionality

- This program replicates the cat command in Unix, but prints the contents of files to standard output in the reverse order the files are given.
- If no files are given or - (dash) is given as a filename, it will read from standard input.
- The program should print an error message to standard error and skip the file, if there is an error reading the file.

Constraints

- Our program “may not use any of the C library FILE * functions such as fread() and printf() for user data. C++ library functions such as iostream and fstream are also not allowed.”
- Our program must use fixed-size buffers.
- A max of 32 KiB can be allocated for these buffers.
- Our program must be written in C.

This program uses the libraries stdio.h, fcntl.h and unistd.h.

Functions

- int fdcat(int input_fd, int output_fd)
    - Writes the contents of the stream referenced by input_fd to output_fd using a fixed char buffer of size 16384. Returns -1 if there is an error reading the file and 0 otherwise.
- void readFromSTD()
    - Reads from standard input until it runs out of input. If there is an error reading from standard input, it prints “failed to copy standard input\n” to standard error.