Design Document
Billy Kwong
Bqkwong
CSE 130 Fall19

ASGN0 Design

Goal

The goal of this assignment is to implement the basic cat program, without support for any flags.The code needs to copy data from each of the files specified on the command line to standard output. Perform the simple functionalities of Unix cat command.

Assumptions

I'm assuming that the newlines are represented by the (single) character \n.

Design

The general approach I'm taking is to simply read some bytes of data from a file and display it on standard output until it reaches end of file. This process will continue through all the file names given to program in arguments. If there is no argument given program will read data from standard input and similar behavior if a file name is "- ".

Pseudocode

```
procedure DOG
        declare buffer size 32
        if argc = 1 then
                Loop
                        bytes_read <- read(stdin file descriptor, buffer, size of buffer)
                        if bytes_read <= 0 then
                                Break
                        write(stdout file descriptor, buffer, size of buffer)
                End
                Return
        for i 1 to argc – 1 do
                if argv[i] is equal to "- " then
                        Loop
                                bytes_read <- read(stdin file descriptor, buffer, size of buffer)
                                if bytes_read <= 0 then
                                        Break
                        write(stdout file descriptor, buffer, size of buffer)
                End
        Else
                fd <- open(argv[i], readonly)
                if fd = -1 then
                        warn("%s", argv[i]);
                        Exit;
```

```
        Loop
                bytes_read <- read(fd, buffer, size of buffer)
                if bytes_read <= 0 then
                        Break
                write(stdout file descriptor, buffer, size of buffer)
        End
        close fd
end procedure
```