Design Document: Simple *cat*

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1 Goals

The goal of this programming assignment is to write a program, dog, with similar functionality as the unix command cat. We do not need to handle any flags but we will need to handle single dashes, invalid inputs, and as many input files as given.

We also need to make sure that the inputs are returned in reverse. This means that ./dog file1 file2 is equivalent to cat file2 file1. If an input is invalid, an error message should be given and the program should continue regardless.

2 Design

The design is all encapsulated in the original main function. The handling is split between cases based on the arg_count. If there are more than 1 args, the program iterates from arg_count to 0, decrementing by one on each iteration.

INPUT : Argument count: arg_count
INPUT : Array of arguments: arguments
OUTPUT : Standard Output

1. Create buffer of size BUFFER_SIZE
2. **If** arg_count == 1 **then**
    a. **While** read return value > 0 **then**
        i. Write to standard output
    b. **end**
3. **end**
4. **Else if** arg_count >= 2 **then**
    a. **For** all args i in arguments below arg_count but above 0
        i. **If** arguments[i] is dash **then**
            1. **While** read return value > 0 **then**
                a. Write to standard output

2. **end**
   ii. **end**
   iii. Open arg at arguments[i]
   iv. **If** can't open arg **then**
      1. Send error message and continue
   v. **end**
   vi. Read from arg
   vii. **If** can't read arg **then**
      1. Send error message and continue
   viii. **end**
   ix. **While** read return value > 0 **then**
      1. Write to standard output
   x. **end**
   xi. Close file
b. **end**

5. **end**

Algorithm 1: Handling files and standard input to standard output

3 Testing Plan

The basic testing plan will start with testing for standard input alone and single text files. Afterwards will be testing for the combination of standard input and text files. Lastly I will test the implementation of applying dog to binary files.