

ASSIGNMENT1

Abdelrahman Mahmoud Lotfy 202000616

mycat documentation

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1. Overview

This is a program to replicate some of the cat commands in Linux using c programming, file manipulation, string manipulation, and makefile.

This program uses stdio and string libraries.

2. Functions

2.1. Read function

Read function is supposed to replicate the “cate filename” command. It takes pointer to the first element of an array of characters. Then it opens file location according to the function parameters “arr” using a file pointer on read mode, then it prints the content of the file.

2.2. Write function

Write function is supposed to replicate the “cat > filename” command. It takes pointer to the first element of an array of characters. Then it opens file location according to the function parameters “arr” using a file pointer on write mode, then takes input from the user to print it in the file.

2.3. concatenate function (conc_nfile)

This function is supposed to replicate the “cat > filename filename > filename” command. It takes three pointers to the first index of each array “loc, loc1, loc2”. Then open three files according to the string names. The first two in read mode and the other in

write mode. Using `fgets`, we get the content of `file1` and `file2` and store them in the 2D array `"data"`. Then print the array in the third file using `fprintf`.

2.4. `read_write` function

This function replicates both `"cat filename > filename"` and `"cat < filename > filename"` commands. This function is supposed to overwrite the content of `file1` into `file2`. It takes two arrays (pointer to the first index) both are strings of the file name. It simply reads the content of `file1` and stores it in a 2D array called `data` and prints the array into the second file using write mode.

2.5. `append` function

This function replicates the `"cat >> filename"` command. It takes an array (pointer to the first index of the array) and takes an input from the user and prints into the file using `"Append"` mode.

2.6. `main` function

Firstly, take an input from the user and split the input into tokens using `strtok` on spaces, then store the tokens in pointer to array of size 20. Check if the given input doesn't have any `"<"` `">"` to replicate the command `"cat filename filename filename filename ..etc."`. Then check accordingly the size of the array and the position of `">"` or `"<"` or `">>"`, which indicates which command to use.

3. Error handling

The kind of errors that are managed as follows:

- “Wrong command” as it didn’t match the above commands.
- “mycat: No such file or directory” as it didn’t find the file using fopen and it is printed using perror() function.