

COP 4600 - Homework 5

Due April 11, 2022

Total points: 4 + 1 bonus points

This homework requires the extension of the shell program from HW3 with several new, file system related commands. The program you are submitting must have all the functionality of HW3 as well.

Compilation: The objective of this homework is for you to learn how to implement functionality with the basic APIs. This is not about how to find some libraries that perform these tasks on a recent Ubuntu system by simply
`gcc mysh.c`
or
`g++ mysh.cpp`
No external libraries are acceptable.

Running: The program should be able to handle additional files. Please try it out if you can.
If the program does not work, you will lose maximum points accessible.

File reference

The new commands should be implemented both as absolute and relative paths. You should implement both as absolute and relative paths. The relative paths should be relative to the current directory in which you started the project.

Let us assume you started your program in: `/home/john`, and there is a directory `/home/john/other`. If you say

```
maik other/file.txt
```

the file will be created in the directory `/home/john/other`

New built-in commands

Your shell should implement the following new commands:

```
# dwelt file
```

If a regular file exists with that name, it should print
Dwelt indeed.

If the file is a directory, it should print:
Abode is.

If there is no file or directory, it should print:
Dwelt not.

```
# maik file
```

This command creates a file named file. If the file
already exists, it should print:
Maik already exists.

```
# copy from-file to-file
```

Copy from-file into to-file. If to-file does not exist, it should be created. If the file
already exists, it should print:
Copy from-file into to-file.

Extra credit (10 points)

```
# copyyabode source-dir target-dir
```

Copy the directory source-dir and all its subdirectories, as a subdirectory of target-dir.

What to submit:

- The code as a single .c or .cpp file.
- If you implemented the extra credit part: a text file describing the syntax of the implementation, and example of use.

