**Προγραμματισμός Συστήματος Εργασία 2**

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# Files

### *main.cpp:*

Our main has some simple list function for our names, and then the main action begins, first we make sure to read the cmdl arguments and then make sure that the directories are correct. We add the id file to our common and then the process checks for new ids. When one is found two children are forked, one to receive and one to send. We use pause and wait, to control if something went wrong with the children, if something goes wrong, we fork again up to three times.

### *readsCmd.cpp/hpp:*

A simple cmdl assignment function.

### *functions.cpp/hpp:*

These files feature a recursive delete function to delete a folder and it's contents when needed and then the main function which is forkChildren, that makes the two children responsible for sending and receiving information with write/read, if a folder is to be sent, we give a signal '-1' and the receiver knows to make a folder by expecting for the length of the name and the name. If it's a file, the length is received as the signal ( != -1) and it expects a name then the length of the contents and then the contents.

# Compilation and Running the program

We compile using a makefile so all the user has to do is type 'make' which has the following form:

mirror_client:

    g++ src/main.cpp src/functions.cpp src/readCmd.cpp -o mirror_client

.PHONY: mirror_client

We run the program using the following format:

./mirror_client -n id -c common_dir -i input_dir -m mirror_dir -b buffer_size -l log_file

# Resources

https://stackoverflow.com/questions/806906/how-do-i-test-if-a-variable-is-a-number-in-bash

https://unix.stackexchange.com/questions/404822/shell-script-to-create-a-file-if-it-doesnt-exist

https://stackoverflow.com/questions/15854559/looping-over-directories-in-bash

https://stackoverflow.com/questions/29538169/storing-ouput-of-shuf-into-a-variable

https://stackoverflow.com/questions/40926789/create-a-file-of-a-specific-size-with-random-printable-strings-in-bash

https://stackoverflow.com/questions/8436841/how-to-recursively-list-directories-in-c-on-linux

https://stackoverflow.com/questions/5237041/how-to-send-integer-with-pipe-between-two-processes

https://stackoverflow.com/questions/6168636/how-to-trigger-sigusr1-and-sigusr2