brobash

Team brOS's implementation of a shell.

Features

- Execute commands provided on your system.
  - `firefox` opens firefox in a new process.
- Supports piping multiple commands.
  - `ls | grep .c | grep bb` retrieve all `.c` files which contain `bb` as part of their filename in the current directory.
- Supports IO redirection.
  - `sort < input.txt > output.txt` reads input.txt, sorts it, and saves it to output.txt.
- Multiple piping with multiple redirection is also supported
  - `cat < file1 | sort > file2 | ls > file3` retrieves contents of file1 then sorts and outputs to file2 and finally ls outputs to file3
- History functionality.
  - `!!` to execute the most recent command.
  - `! n` to execute the nth command in the history.
  - `@@ n` to execute the nth recent command.
  - `??` to view the most recent command.
  - `history` to view the command history list.
- Supports many built-in commands.

- $\circ$ `type exit cd` to find the types of specified commands.
- $\circ$ `cd directory` to change current working directory to specified directory.
- Capable of taking inputs from a file.
  - $\circ$ `./brobash input.txt` will run all the commands in the input file.
- Provides basic init file which runs before the terminal starts.
- Provides basic configuration file to edit shell properties.

Install

- brobash is a standalone program.
- Go to brobash directory, type `make brobash`.

How To Run

- Run brobash by typing `./brobash`.
- You can also add brobash to your Enivronment path to make the command `brobash` available globally.

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Error and difficults

- Not all memory leaks were handled

- Parsing the command was tedious, strtok used a static pointer which was not known to us.

Contributions

- Abhinav Singh - " I handled parsing the command and taking file inputs for the bash "
- Suhas. N - " I implemented multiple piping with multiple io redirection "
- Aditya Kanthale - " I created history :) "
- Ashish Singh - " I made builtin commands "