Project 2 Test Samples

Hi everyone! Here are a few example test cases that the autograder may run to check your submission when you get started. If you're failing some test cases and you're not sure why. Please check if your submission can pass the sample test cases below:

Project 2a

- Running your shell and pressing `Ctrl+D` should result in your shell exiting.
- Running your shell and typing `echo hi` should result in `hi` being printed.
- You should be able to combine pipes and arguments. For example, running `echo hello world > out.txt` should result in a file named `out.txt` with `hello world` as the contents.
- Running a command like `cat < out > out` should delete all of the contents in the file named "out" (don't delete the file itself!).
- Running a command like `cat < a > b` should copy the contents of `a` into `b`.
- Any invalid sequence of operators, like `cat < a < b < c`, `cat < > < > cat`, or `cat > a > b > c`, should result in an error message being printed with the word `invalid` in it.

Project 2b

One-line test

- Running a command like `ls -l -a /usr | head -5` should result in 5 entries of files/folders in the `/usr` folder being printed with details.
- A complex pipeline, like `cat < input.txt | cat > output.txt` should copy the contents of the `input.txt` file to the `output.txt` file.
- Running a command like `ls > out` should result in a file called `out` being created with the output of the ls command as the contents of the file.
- Running a command like `ls | cat < input` should result in an error message being printed with the word `invalid`.
- Graceful recovery when typing in invalid input. For example, when autograder types in `>>>>` or `ls > < out` into your shell as the command, not only should you successfully print out an error message, you need to also avoid crashing right after.

You should also ensure that your shell can execute absolute and relative commands. For example, in addition to executing `ls`, your shell should be able to handle `/bin/ls`. If you make a script called `example.sh` in the same folder as your shell, you should be able to run `./example.sh` in your shell to execute the script.

Composed test

1. Truncate by cat

After running the following commands, you should get a `hello` on the console.

```
echo 'hello' > out
cat < out | cat > out2
cat out2
```

2. Arguments with a pipe

After running the following commands, you should see "." followed by a line of ".." on the command line.

```
ls -a /etc | head -2
```

3. Arguments with a pipe and redirection

After running the following commands, you should see the full info of the folder content from the command line as if you have run `ls -la`.

```
ls -l -a | cat > out
cat out
```