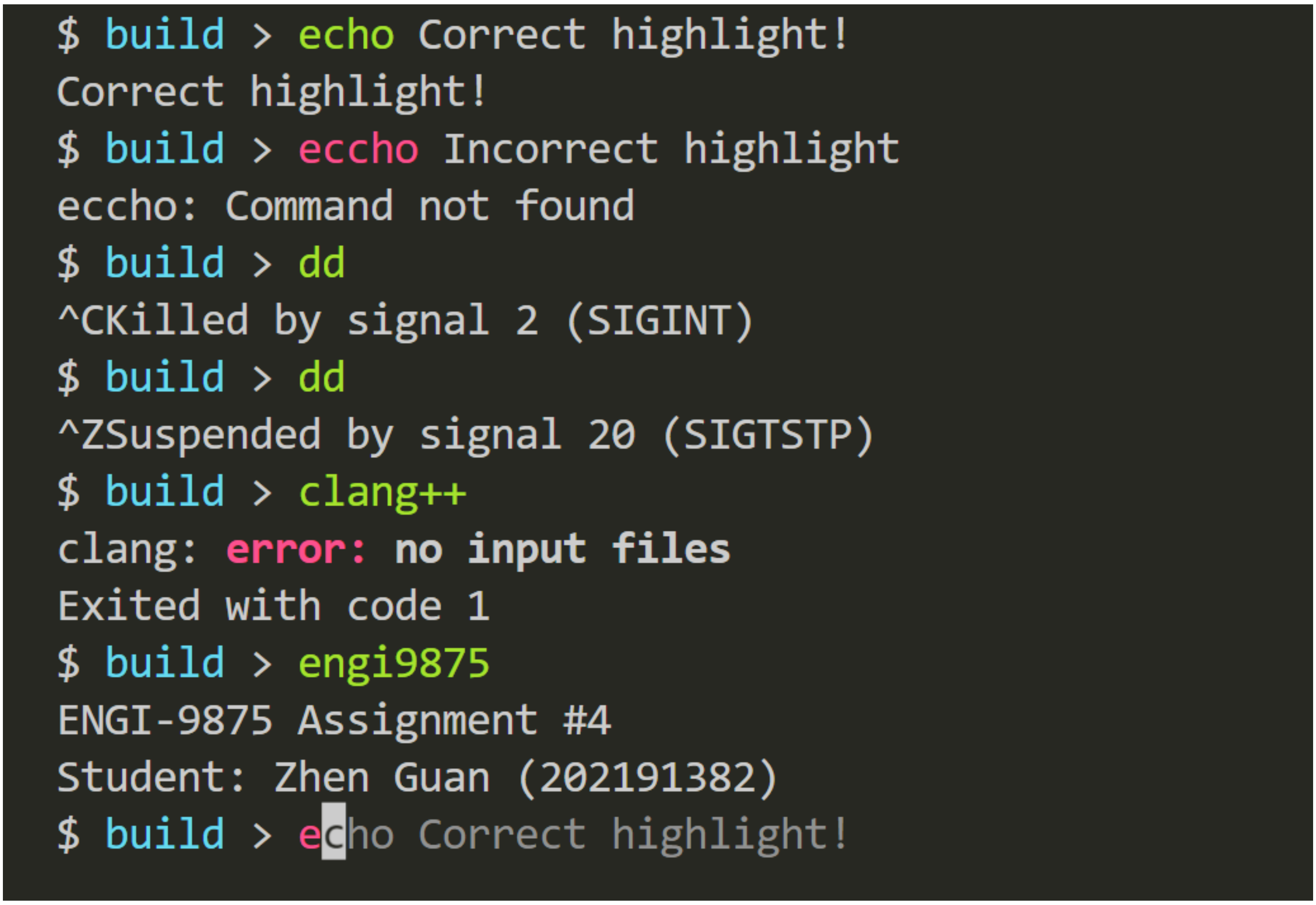
Assignment #4

Student: Zhen Guan (202191382)



```
$ build > echo Correct highlight!
Correct highlight!
$ build > eccho Incorrect highlight
eccho: Command not found
$ build > dd
^CKilled by signal 2 (SIGINT)
$ build > dd
^ZSuspended by signal 20 (SIGTSTP)
$ build > clang++
clang: error: no input files
Exited with code 1
$ build > engi9875
ENGI-9875 Assignment #4
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$ build > echo Correct highlight!
```

Main Features

- Simple highlighting

Highlight builtin commands, cwd filenames and PATH executables as you type.

This is not a syntax highlighting, but a simple highlighting indicating if you have entered the correct builtin command, cwd filename or something in PATH.

- Autocomplete Suggestions

Matches start of the input with builtin commands, cwd filenames and history commands.

Hit `Tab` or `Right arrow` to accept the suggestion.

Other Features

- History

By default 1,000 history commands are stored in memory. Switch between them with `Up` and `Down` arrow keys.

Show full history with `history` command.

- Cancellation

`Ctrl+C` to send SIGINT to the current foreground process. Won't kill the shell itself.

- Line editing

Use `Left` and `Right` arrow keys to move the cursor. `Backspace` and `Del` to delete characters.

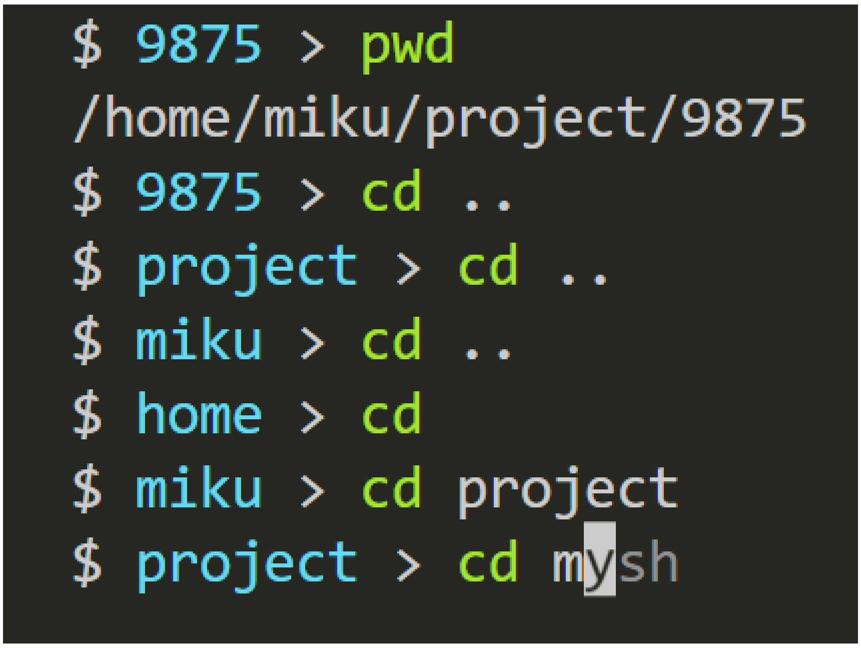
- Suspension

`Ctrl+Z` to send SIGTSTP to the current foreground process. Won't suspend the shell itself.

- Tab completion

`Tab` or `Right` arrow key to complete the current input. If there are multiple matches, then it will not work. The completion is previewed as a suggestion in dimmed color.

- Some basic builtins like `cd`, `exit`. cwd is displayed in the prompt.



```
$ 9875 > pwd
/home/miku/project/9875
$ 9875 > cd ..
$ project > cd ..
$ miku > cd ..
$ home > cd
$ miku > cd project
$ project > cd mysh
```

- Core functionality that required in the assignment
- Seems work well with anaconda

Build and Run

```
mkdir build
cd build
cmake .. -B . && make -j8
./shsh
```

Not Implemented

- Pipes
- Redirection
- Variables

All of them require complex input parsing and I was running out of time.