$ psh progress
week-3

Psh aims to make a POSIX like compliant shell capable of running all commands currently available with zsh and bash, while still attempting to make it as POSIX compliant as possible.

We also aim to add a few accessibility features such as syntax highlighting, auto complete, signal interruptions and the usage of arrow keys to browse through the history of commands entered.

By the end of week 5 our aim is to achieve all above.

🏁 Week -3 milestones

- For loop
- Read
- Script mode
- Globbing and expansion (wildcards - ? and *)
- Type
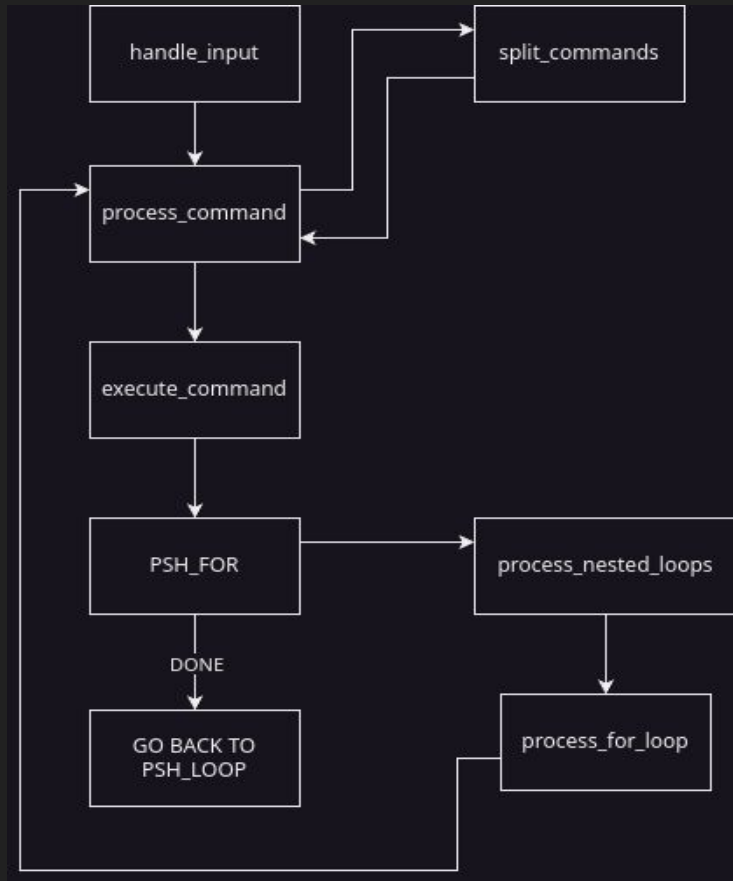- Up arrow key
- Alias

🐛 **Bug Bashing**

💡KK and Alayna:

- **Read** : Built-in command that reads text from standard input. The tool offers many functionalities for reading user input, helping make psh scripts interactive.

- **Script mode** : Mode of operation where the script is interpreted and executed by the shell. Parsing involves reading the script to interpret its commands, while running involves executing these commands sequentially.

- **Globbing and Expansion** : Refers to the use of wildcard characters to match file and directory names.

    1. **?** wildcard - matches exactly one character
    2. * wildcard - matches zero or more characters

- **<u>Type</u>** : Command in a shell that is used to display the type of command a given name is. It helps determine how the shell will interpret and execute the command.

- **<u>Up arrow key (by KK)</u>** : Retrieves the previous command from the memory_history_file in the shell, allowing for quick re-execution or editing of past commands.

💡 Adi: For loops

- A for loop in programming is a control flow statement that allows code to be executed repeatedly based on a condition.

- posix syntax :
  for variable in list ;do #commands ;done

- Handles nested loops (if any). Which is then parsed and processed for execution

- If the loop is not marked as done, go back to PSH_FOR to continue with the next iteration.

- If the loop is marked as done, exit the loop and proceed with the next command.

💡 Sumithra : Fixed Tokenizer to recognize quotes

- Tokenizer, now, takes all text between quotes as one element of the token array.

BUG FIXED

a="hello psh" → Previously stored the value as a="hello

→ Now stores the value as a="hello psh"

💡 Sumithra : Alias

- Alias
  - Allows user to provide an alternate name for a command and invoke the command using that name

- Flags
  - alias / alias -p → Prints out the list of all aliases declared
  - alias [name]=[command] → Stores [name] as the alias for [command] in the ALIAS file

- Bugs
  - Calling any alias command results in exiting from the psh loop

DEMO

Nathan merging pr via psh 😊😊😊

```
drwxr-xr-x   8 polarhive polarhive  4096 Jul 20 13:37 .
drwxr-xr-x  18 polarhive polarhive  4096 Jul 16 17:19 ..
drwxr-xr-x   2 polarhive polarhive  4096 Jul 20 23:59 bin
-rw-r--r--   1 polarhive polarhive  5488 Jul 11 18:57 CODE_OF_CONDUCT.md
drwxr-xr-x   2 polarhive polarhive  4096 Jul 20 23:58 .files
drwxr-xr-x   8 polarhive polarhive  4096 Jul 20 23:58 .git
drwxr-xr-x   3 polarhive polarhive  4096 Jul 11 18:57 .github
-rw-r--r--   1 polarhive polarhive   521 Jul 20 13:37 .gitignore
-rw-r--r--   1 polarhive polarhive 35149 Jul 11 18:57 LICENSE
-rw-r--r--   1 polarhive polarhive  1112 Jul 20 13:37 Makefile
-rw-r--r--   1 polarhive polarhive  1647 Jul 18 19:21 README.md
-rwxr-xr-x   1 polarhive polarhive    86 Jul 18 23:06 script.sh
drwxr-xr-x   2 polarhive polarhive  4096 Jul 20 23:58 src
drwxr-xr-x   2 polarhive polarhive  4096 Jul 17 02:50 .vscode
polarhive@PSH ➜ psh $ ^[[A^[[A^[[A^[[A^[[A^[[A^[[A^[[A
sh: line 1: $'\E\E[A\E[A\E[A\E[A\E[A': command not found
polarhive@PSH ➜ psh $ git pull origin main
From github.com:psh-shell/psh
 * branch            main       -> FETCH_HEAD
Already up to date.
polarhive@PSH ➜ psh $ git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
polarhive@PSH ➜ psh $ git merge new_psh_read
Updating e7065aa..6939003
Fast-forward
 src/builtin.c | 86 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++---
 src/builtin.h |  1 +
 src/execute.c | 35 ++++++++++++++++++++++-----
 src/helpers.c | 44 ++++++++++++++++++++++++++++++++++--
 src/main.c    | 12 +++++++++++-
 src/psh.h     |  5 ++++-
 6 files changed, 171 insertions(+), 12 deletions(-)
polarhive@PSH ➜ psh $ git push -u origin main
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:psh-shell/psh
   e7065aa..6939003  main -> main
branch 'main' set up to track 'origin/main'.
polarhive@PSH ➜ psh $
```

🎯 Target for next weeks

- Leftover commands
- ANSI colors
- handling signals/interrupts
- looping constructs {while & until loops}
- Variable assignment
- shell expansion
- bug fixes !

✏️ feedback?