

## Programming Assignment 1

CS450 Fall, 2017

### 1. Requirements:

- 1) After your shell has started, it will give a prompt to the user. You should use "\$" for the prompt.

Once executed, show prompt "\$"

```
homes-MacBook-Air:~ home$ cd Desktop  
homes-MacBook-Air:Desktop home$ ./main  
$
```

- 2) If the user types `cmd1 ; cmd2` after the prompt, `cmd1` will get executed, followed by `cmd2`. After `cmd2` is executed, your shell will give a new prompt in a new line, ready to execute the next command line.

Run: `touch temp.txt; ls -l temp.txt`

```
$ touch temp.txt; ls -l temp.txt  
-rw-r--r--  1 home  staff   0 Sep 17 13:59 temp.txt  
$
```

- 3) If the user types `cmd1 & cmd2`, both commands will get executed in parallel. After both terminate, your shell will give a new prompt in a new line, ready to execute the next command line.

Run: `echo a & echo b`

```
$ echo a & echo b  
b  
a  
$
```

- 4) The commands `cmd1` etc. are real commands supported by xv6 and they take arguments. An example is the command `echo "A"`.

Run: echo a

```
$ echo a
a
$
```

- 5) Your shell shall support a command line with a string of 3 or more commands connected by the “;” and “&” operators. The operators are of equal rank and they will be executed from left to right. The string “cmd1&cmd2; cmd3” will see cmd1 and cmd2 executed in parallel. Cmd3 after they both terminate.

Run echo "time to sleep"; sleep 10 & echo "sleeping..."; echo "wake up"

```
$ echo "time to sleep"; sleep 10 & echo "sleeping..."; echo "wake up"
"time to sleep"
"sleeping..."
"wake up"
$
```

- 6) A command string terminated by a “&” is illegal; but it is fine with “;”

Run: echo a&echo b &

Run: echo a ; echo b;

```

$ echo a & echo b&
illigel input command
$ echo a;echo b;
a
b
$
```