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Lab 1C: Simpleton Shell—Report

Bash tests were performed in the following manner, with the time function in ***test.sh*:**

```
bash test.sh
```

Dash tests were performed in the folliwing manner, with the time function in ***test.sh:***

```
dash test.sh
```

Simpleton shell tests were performed with the additional option –***profiletotal***, which was removed from the final tests below for ease of grading. This option merely added the system and user times of profile for each option.

Requisite files:

echo "This is a file" > test1_file.txt
Any large file, renamed large_file. Mine was from ***https://thinkbroadband.com/download***
err.txt
out.txt

Test 1:

bash/dash:
cat test1_file.txt | tr 'Tis' 'sti' | grep 'shti' | wc -c > out.t 2>err.txt

simpsh:
./simpsh --rdonly test1_file.txt --creat --rdwr out.t --pipe --pipe –wronly err.txt--command 0 3 6 tr 'Tis' 'sti' --command 2 5 6 grep 'shti' --command 4 1 6 wc -c --close 4

	Bash	Dash	simpsh
Average Time: User	.024s	.021s	.020s
Average Time: CPU	.015s	.013s	.013s

Test 2:

bash/dash:
cat large_file | sed 's/abc/def/g' | tr 'def' 'abc' | wc -l | grep '5' > out.txt 2>err.txt

simpsh:
./simpsh --rdonly large_file --wronly out.txt --pipe --pipe --pipe --wronly err.txt --command 0 3 8 sed 's/abc/def/g' --command 2 5 8 tr 'def' 'abc' --command 4 7 8 wc -l --close 4 --command 6 1 8 grep '5'

	Bash	Dash	simpsh
Average Time: User	.112s	.131s	.102s
Average Time: CPU	.105s	.082s	.103s

Test 3:

bash/dash:
sort < large_file | wc -l | grep "some word" > output.txt 2>err.txt

simpsh:
./simpsh --rdonly large_file --creat --wronly output.txt --pipe --pipe --creat --wronly err.txt --command 0 3 6 sort --command 2 5 6 wc -l --close 2 --command 4 1 6 grep "some word"

	Bash	Dash	simpsh
Average Time: User	.874s	.830s	.017s
Average Time: CPU	.077s	.055s	.022s

Results:

The simpsh seemed to be the fastest of the three overall, although it had a slightly longer system time than dash for the tests. Dash consistently had the lowest system times, but lost out to simpsh in user time. Bash was the slowest overall, losing out to both dash and simpsh for most cases.