

Lab 1C Writeup

Benchmark 1

simpsh:

```
./simpsh --profile --rdonly pg98.txt --pipe --pipe --pipe --pipe --creat --  
wronly out.txt --creat --wronly err.txt --command 0 2 10 cat --command 1 4 10  
grep "[a-c][b-f]" --command 3 6 10 uniq -c --command 5 8 10 sort --command 7  
9 10 wc -l --close 1 --close 2 --close 3 --close 4 --close 5 --close 6 --  
close 7 --close 8 --wait
```

bash/dash:

```
cat pg98.txt | grep "[a-c][b-f]" | uniq -c | sort | wc -l > out.txt 2>err.txt
```

	simpsh	bash	dash
Trial 1	0.0834	0.077	0.100
Trial 2	0.0716	0.109	0.070
Trial 3	0.0856	0.107	0.090
Average	0.0802	0.0977	0.087

Benchmark 2

simpsh:

```
./simpsh --profile --rdonly pg98.txt --pipe --pipe --creat --wronly out.txt  
--creat --wronly out.txt --creat --wronly err.txt --command 0 2 6 cat --  
command 1 4 6 sort --command 3 5 6 sed 's/a/b/' --close 1 --close 2 --close 3  
--close 4 --wait
```

bash/dash:

```
cat pg98.txt | sort | sed 's/a/b/' > out.txt 2>err.txt
```

	simpsh	bash	dash
Trial 1	0.100	0.131	0.090
Trial 2	0.0772	0.137	0.090
Trial 3	0.0856	0.148	0.090
Average	0.0876	0.0977	0.090

Benchmark 3

simpsh:

```
./simpsh --profile --rdonly pg98.txt --command 0 0 0 sleep 3 --pipe --pipe --
creat --wronly out.txt --creat --wronly err.txt --command 0 2 6 cat --command
1 4 6 sort --command 3 5 6 grep "the" --close 1 --close 2 --close 3 --close 4
--wait
```

bash/dash:

```
sleep 3 | cat pg98.txt | sort | grep "the" > out.txt 2>err.txt
```

	simpsh	bash	dash
Trial 1	0.061	0.066	0.090
Trial 2	0.064	0.095	0.050
Trial 3	0.065	0.099	0.050
Average	0.063	0.087	0.063

Conclusions

I ran my simpsh and compared it to bash and dash on the above three test cases. It is pretty clear the my shell outperforms bash for all test cases. It performs better than bash by over 10% on all three test cases. The relationship between simpsh and dash is slightly more unclear. Dash seemed to perform better in general but had some outliers that hurt its average performance. It sometimes performed much faster than simpsh and sometimes performed much slower. Simpsh seemed to perform more consistently than dash.