

Requirement

Create 1/2/4/8 thread to track the total number of distinct characters within a large file.

Compile and Run

```
cheng@cheng-VirtualBox: ~/CSC415/HW4
cheng@cheng-VirtualBox:~$ cd CSC415/HW4
cheng@cheng-VirtualBox:~/CSC415/HW4$ ls
as_count_1.c as_count_4.c as_count.c little.txt tiny.txt
as_count_2.c as_count_8.c large.txt small.txt
cheng@cheng-VirtualBox:~/CSC415/HW4$ gcc -pthread -Wall -std=c99 as_count_1.c -o as_count_1
cheng@cheng-VirtualBox:~/CSC415/HW4$ gcc -pthread -Wall -std=c99 as_count_2.c -o as_count_2
cheng@cheng-VirtualBox:~/CSC415/HW4$ gcc -pthread -Wall -std=c99 as_count_4.c -o as_count_4
cheng@cheng-VirtualBox:~/CSC415/HW4$ gcc -pthread -Wall -std=c99 as_count_8.c -o as_count_8
cheng@cheng-VirtualBox:~/CSC415/HW4$ ls
as_count_1 as_count_2 as_count_4 as_count_8 as_count.c little.txt tiny.txt
as_count_1.c as_count_2.c as_count_4.c as_count_8.c large.txt small.txt
cheng@cheng-VirtualBox:~/CSC415/HW4$ time
```

THREAD Performance

	Thread_1	Thread_2	Thread_4	Thread_8
Real Time (s)	0.744	0.720	0.886	0.856
User Time (s)	0.276	0.244	0.248	0.276
Sys Time (s)	0.260	0.272	0.288	0.304

```
real    0m0.744s
user    0m0.276s
sys     0m0.260s
cheng@cheng-VirtualBox:~/CSC415/HW4$
```

```
real    0m0.720s
user    0m0.244s
sys     0m0.272s
cheng@cheng-VirtualBox:~/CSC415/HW4$
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real    0m0.886s
user    0m0.248s
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