CSE320 Assignment6
Review Document

24 April, 2024
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The utmost goal for the assignment was to understand the threading process using the C programming language pthread_create, join and detach. With the basic thread creation and management, I created a word count program that showed the difference between thread_join and thread_detach. Since the algorithm between the two functions were identical, I was able to confirm that thread detach has a much quicker execution time compared to joining the thread. I was taught that this is because join waits for the thread to finish and return to the main() while detach is literally detached from the main thread and executes independently on its own.

Things that I've learned:
- It is random, which thread will end first, if the thread is detached. Likely the function with less weight ends first
- Clock_t library is useful to compare execution times for threads, processes, functions and et cetera

Some troubles I've faces:
- It was hard to make the detach thread print out its execution results before the main thread prints out the input statement
- I still do not know whether making so many variables for each join and detach was necessary. There were some unexpected behavior from the detached thread, and to prevent such that is the solution I took, but it is questionable

Code execution results:

```
main: 1345124288
Word to count: yes
String to count word from: yes yes no no yes
JOIN: "yes": 3
JOIN TIME: 0.000104
DETACH: "yes": 3
DETACH TIME: 0.000011
Word to count: good
String to count word from: good thank you
JOIN: "good": 1
JOIN TIME: 0.000111
DETACH: "good": 1
DETACH TIME: 0.000007
Word to count: quit
hkwak60@gwaghojun-ui-MacBookPro Assignment6 %
```