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Operating System Assigment 1

Report

In the thread solution file reader was written in the diffrent class to make more understandable the code .

Analyse

In the naive solution program worked in 0,016 second

In the thread solution with 1 thread program worked in 0,016

In the thread solution with 2 thread program worked in 0,015

In the thread solution with 4 thread program worked in 0,013

In the thread solution with 8 thread program worked in 0,015

In the program 12 cores works if i would tried 12 thread solution that could be the quickest solution . the speed of program can change on many thing works in the computer so it is hard to get correct answers but as i understand working with many thread most of the time is give you quicker solution .

Theory Questions

1-Thread give you chance to do more than one process . Thread can make only one process at the same time . İf you want to make more than one process , you can use many threads at the same time this is what multithreading is.

2-Execution and termination of threads will take less time than process and context switches between threads are faster than between processes. That is why it is better to use multithreading in OS .

3-It is quicker to create a thread than a process. Context switching between threads

quşcker than to context switching between processes. And threads share data easily .

4-Creating and terminating a thread takes less time than processes. While the processes run in isolation from each other, the threads share the same memory resource. Processes consume more resources than threads.

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6-New, Runnable, Blocked, and Terminated are states of OS.

7-For the first fork() there will be one child , for second fork () there will be two child , for three for () there will be four child the formula is 2^n-1 so its 2^3-1=7

8-for every loop fork will be work so the formula is 2^n-1 loop going to work on time that's why the answer is 2^n-1