ClassActivity4_part2

Due Feb 4 at 11:59pm **Points** 5 **Questions** 3
Available until Feb 4 at 11:59pm **Time Limit** None **Allowed Attempts** 3

Instructions

This is the second part of the class activity associated with the lecture on threads. This is individual work.

Please submit before the deadline. No late submission is accepted.

This activity will be marked based on the reasonable effort you put to answer the questions, not necessarily correctness.

This quiz was locked Feb 4 at 11:59pm.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	34 minutes	5 out of 5

Answers will be shown after your last attempt

Score for this attempt: **5** out of 5
Submitted Feb 4 at 9:07pm
This attempt took 34 minutes.

Question 1 — 2 / 2 pts

What is a thread? Give an example of a multithreaded application.

Your Answer:

A thread is a basic unit of CPU utilization and consists of a thread ID, program counter, register set, and a stack. A web browser is an example of a multithreaded application, because the user can scroll a page, download files, and play videos all at the same time.

Question 2

2 / 2 pts

Why threads? That is why not always use the process-creation method?

Your Answer:

Processes are heavyweight operations that are time-consuming and resource-intensive. For performing similar tasks, a single process with multiple threads is more efficient, as threads are lighter-weight operations. Multithreading is responsive and economic, as thread switching is lower overhead than context switching.

Question 3

1 / 1 pts

On your computer launch Chrome (or your favorite browser). Then run **Task Manager** (if using Windows) or A**ctivity Monitor** (if using macOS or Linux). Check the following:

How many processes do you see running for Chrome? What are their names.

Considering one of those processes, how many threads does that process have?

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Activity Monitor: Use the "CPU" tab and then either sort using "Process name" or just use the search box on the top right. To see the number of threads, right click on the "Process name" (or any of the other visible headings, like PID, %CPU, ...), and select "# Threads", this will add a column showing the number of threads for all processes.

Task Manger: First make sure that you are using "More details" view. You can see the processes on the "Processes" tab (you can sort them by name). To see the # of threads, choose the "Performance tab" and then at

the button choose "Open resource Monitor". You should be able to see the number of threads under the "Processes" tab.

Your Answer:

For Google chrome, I see 10 processes running and they are all called chrome.exe. The most threads that one of those processes is running is 36 threads.

For Edge, I see 16 processes running and they are all called msedge.exe. The most threads that one of those processes is running is 39 threads.

Quiz Score: **5** out of 5