CS 475/575 Live Lecture
April 1, 2024

14:09:55 Can you confirm that access to a Linux system is not required to complete coursework? I get the sense from the first assignment that we should be able to accomplish our coding/compilation on a Windows system, but can you confirm this is correct for all assignments?

Correct. You can run this anywhere you can get it to run.

14:16:13 Question regarding tests - does "open notes" cover teacher-provided handouts and other such 'book' readings?

It covers *any* materials that I give you: most typically notes and project handouts..

14:26:39 Does rabbit offer any advantages over flip? Flip works just fine for me so wondering if any need to try to make the move.

Rabbit has a cooler name than flip! It was named after the Winnie-the-Pooh rabbit. 😊

Differences: rabbit is an older machine than the flip machines, but it is just for this class to use so it is likely to be less loaded. I have no preference either way. The call is yours.

14:29:21 Are you able to provide transcripts of the class from the captions generated?

Zoom/Kaltura will let me do it, but it will all be Zoom's interpretation of what the words were which is sometimes unintelligible. Would that still be useful? I do transcribe the chat window (like this document).

14:29:25 So for Project #0, we need to submit two files: our .pdf commentary and our proj0.cpp file?

Yes.

14:30:16 This might be a bit premature, but is there a setup tutorial for getting OpenMP on Linux for local coding?

See the Simple OpenMP notes. Not much setup. Just compile your program in such a way that OpenMP is enabled.

14:30:26 Is our password for rabbit our ONID password?

Yes. BTW, the IT people say that the login problem with rabbit has been fixed.

14:32:20 Do we need to watch the pre-recorded videos that are posted to the class resource page (in addition to attending/viewing the new weekly live class sessions and reading the weekly PowerPoints)? Or are the weekly live class meetings a sufficient replacement for the pre-recorded live videos posted to the website?

A Live Lecture is usually only about 90 minutes long, so it can't cover all the materials from the notes, so I recommend you do not skip watching the videos. The big purpose of the LLs is to give you the chance to ask live questions. And to build a sense of classroom-community for you.

14:47:50 I've just tested this on my M1 Mac. Works with no issues:
> **https://stackoverflow.com/a/75698002**

Good to know!

14:51:25 For Project #1, how do we know if our calculated probability is correct? My calculation seems a bit high, but the hole is 3 feet wide so maybe it's correct.

You will know by checking your code very, very carefully. 😊
If you come to my OHs and send me your probability in a private chat, I will confirm or deny. But please do not pass it on to others. I want everyone to go through the whole process themselves.

14:59:33 So, just to be clear, we ARE allowed to use the listed main program?

Yes. Any code I give you in the notes or the project handouts can be used. I respect the value of your time and don't want to see you wasting it by typing in boilerplate.

14:59:50 Should our programs be .c or .cpp?

They will look more like C than C++ but call them .cpp anyway.

15:00:56 Do you want us to add a line to calculate the speedup factor, or is something we manually calculate after we run the program with 1 thread vs 4?

Just use a calculator.

15:14:32 What about a Docker container, does multi-threading have known issues there?

Not that I know of, but I can't think of any advantage to using a Docker container for these projects.

15:16:43 What is the difference between a thread and a process?

A thread is a type of process. But, unlike multiple *processes*, the multiple threads are limited to executing the same program and sharing global memory and heap memory.

15:22:37 For source files, we don't include any bash files correct? Only the .cpp source file is enough?

You don't ever need to submit your bash files. Just your .cpp file. If you have more than one .cpp file, just concatenate them together.

15:23:28 In Project #0, I submitted results from both flip server & my laptop...I take it that's fine to show both (they had similar results)

Actually, I love it when you all submit multiple results from different machines. It is *so* interesting. In general, the shape of the curves will be about the same, but the magnitudes will be different.

15:51:34 Also there is a significant difference depending on the compiler optimization level. I get 400 MegaMults/Sec with -O0 (default) and 6000 MegaMults with -O3.

Yes, optimization often makes a huge difference. But be careful with optimization. A good optimizing compiler might eliminate all or part of your benchmark code because it is not doing anything useful. It's usually better not to do any optimization, I think.

15:57:57 I also think Jensen Huang went to OSU

He did! EE class of 1984. His fresh-faced-21-year-old photo is on one of the collages on our 4th floor. Just look at him now. Work hard – you might be next!