

Live Lecture Chat Window Wednesday, April 20, 2022

15:01:01 Are you using a cursor or pointer? If so, it isn't coming through on my screen.

Cursor, but since it is the same color as the slide background, it is often hard to see. [At this point, I changed to the PowerPoint laser pointer. This seems to be better.]

15:09:37 How does the hardware do multiple things at once again?

Great question! One of the mistakes I often make is to think of hardware in software terms, but in hardware, electrons can be made to travel multiple paths at the same time. That's how multiple cores can run together at the same time.

15:22:48 What are examples of problems that you can use SIMD for?

Anything of the $A*B \rightarrow C$ genre. Fourier analysis, autocorrelation (which is the subject of Project #7B), convolution, are all examples.

15:34:35 The prefetched data will be stored on the cache right?

Correct. When the CPU asks for it, it can't tell why it is there, only that it is.

15:36:24 Test is next week, correct?

Correct! See: <https://cs.oregonstate.edu/~mjb/cs575/Tests/test01.html>

15:36:39 We call a prefetch like this right? `__builtin_prefetch(...)`

Yes, it is called as if it is a function. It might not actually be, but it gets called like one.

15:36:39 Does that use OpenMP?

No.

15:40:12 For Project #3, under Requirements, is #8 just referring to the 4th "quantity" that we're creating?

That's correct.

15:41:24 Can we add more than one?

Absolutely!