Administrivia

• HW0 grades sent out today or tomorrow.
• HW1 peer-review (same).
• HW2 (same).
• Get Cython installed & working for HW2.
  • Test repo posted - please give feedback!
  • OSX fixes in particular…
Cython, clang, OSX

- OpenMP was only recently added to clang (May 2015)
- clang is the default on OSX (even if it’s called gcc)
- I had hoped clang-omp would fit better with OSX clang, but…
- We’ll keep working on this.
AVX vs. SSE3

- We’ll have some examples of instruction-level parallelism (AVX/SSE) in HW2
- If your machine doesn’t have AVX, we have an emulation header in place to use SSE3.
- More testing == smoother time with HW2.
Peer Reviews

ADD COMMENTS HERE

Added my name #2

raahilsha wants to merge 1 commit into harvard-cs205:master from raahilsha:HW0a

Files changed 1

Showing 1 changed file with 1 addition and 0 deletions.

1 | HW0/README
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| 1 | +My name is Raahil Sha

thouis added a note 28 days ago

Hi Raahil, just testing the PR commenting feature.

Add a line note
COST paper

• What is Big Data?
• Why use Spark (or X) other than single-core code?

• How do you measure costs?
  • Which costs do you measure?

• How do you tell when your approach isn’t working?
• What guidance can we use when approaching solving problems
Some typical problems

• PageRank on the web graph.
• Image processing.
• Sequence alignment.
• Web services.
• …
Threads and Locks Review

- Python Threading — high level, useful for I/O bound tasks
- OpenMP Threading — low level, more efficient, fewer structures
- HW2 will focus on OpenMP threading.
GIL vs Other Locks

with nogil, parallel(num_threads=100):
    val = threadid()
    omp_set_lock(&lock)
with gil:
    print("Hello from {}".format(val))
omp_unset_lock(&lock)

Why do we need two locks?
Next time

- Instruction-level Parallelism
  - MMX, SSE, AVX, …