

Algorithm Engineering

Exercise No. 9

Monday 5th January, 2015

Submission

- (1) Submit your solution with `$ git request-pull` (or similar) to jkm@informatik.uni-jena.de. Attach your plot.

1 Cache Hierarchy

Compute information about the caches in your system using the `CPUID` instruction.
Output

- level
- type (data, instruction, or unified)
- number of sets
- associativity
- line size

for each cache and compute each cache's size in bytes.

2 Memory Mountain

Determine the memory mountain of your system by varying the size of an array accessed with varying strides. Increasing the stride results in non-spatial accesses. How does it affect the memory bandwidth? How can one affect temporal locality when obtaining the memory mountain? Send your generated plot by email.