

CSC 435
Homework Set 1
Due 5:00 p.m., January 25, 2007

Problems from Scott : 1.2, 1.3, 2.1, 2.2, 2.3

Problems from Dr. Pounds:

1. Describe the differences between *cache* and *memory* and describe how they are related to the processor.
2. *Cache Misses* are one of the largest inhibitors to performance. Describe what a *cache miss* is, and explain, via examples, how one could minimize cache misses. Will hand tuned code designed to minimize cache misses work equally well on different computer architectures? Why/why not?
3. What is the difference between a cache miss and a page fault?
4. What factor(s) govern how many operations can be completed in a single loop iteration?
5. How far can an electric impulse travel in a copper wire in 1 nanosecond.