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1. Blocking.cc and obvious.cc both have an algorithmic complexity of O(n^3). However, the rate of cache miss increases as the block size grows larger, making them not as cache friendly. This is because the block stores sequential information and its size is relative to the rate of cache miss. So the bigger the block, the more likely its cache miss will increase while a smaller block size decreases the chance of cache miss.

2. The initial assumption was that the larger the cache size, the smaller the miss rate due to the idea that a large cache block contains a hefty amount of information. Results have also shown that cache friendliness aids the algorithmic complexity of the cache.

3. The blockFactor is dependent on the block size. This is because a higher block size can result in a higher hit rate if it also has a block factor.

4. Yes, since it maximizes cache hits, bu at the cost of an increased hit penalty.

5. When the CPU accesses the memory location, it stores the information in the cache and is done very quickly because of its optimized runtime. The simulator wants to have a block size and set in powers of two because it has quicker memory allocation and has the least amount of fragmentation. It's not always necessary since the address would be inserted into the block, but the offset within it would leave a certain amount of bits as its index (the rest being tags). This can sometimes cause a hit miss.

6. The main memory access takes longer to read dynamic RAM than static RAM since it's being read into the hardware, making the caches faster. They can be designed in a way that there are more smaller pieces of static RAM so that the rate of hit miss is lower than if it were to be a large, dynamic RAM.

7. When cache is stored in several cores, it increases the speed in which the processor works. For instance, if a processor hits a level 1 cache, then it works at high speed until it misses. When this happens, it moves to another larger cache.

8. Based on this table of the block size and the cache size, the miss rate appears to decrease (resulting in a higher miss penalty) and the total time is also decreased.

blocking.cc Cache Size	Block Size	Hit Time	Miss Penalty	Miss Rate (%)	Total Time
4 KB	1	10	110	4.5	62865020
4 KB	2	10	120	3.0	56889120
4 KB	4	10	140	2.3	55645940
4 KB	8	10	180	2.8	63088080
8 KB	1	10	110	3.4	57504170

8 KB	2	10	120	2.0	51951240
8 KB	4	10	140	1.4	49987280
8 KB	8	10	180	1.4	52446660
16 KB	1	10	110	2.9	55605900
16 KB	2	10	120	1.6	50142720
16 KB	4	10	140	1.0	47808600
16 KB	8	10	180	0.9	48560640
32 KB	1	10	110	2.0	51315570
32 KB	2	10	120	1.1	47424360
32 KB	4	10	140	0.6	45652320
32 KB	8	10	180	0.5	45765420