Lab 7

1. –s 0 –n 10 LRU  
   Hits: 2, Misses 8

-s 1 –n 10 LRU  
Hits: 2, Misses: 8  
  
-s 2 –n 10 LRU  
Hits: 4, Misses: 6

-s 0 –n 10 FIFO  
Hits: 1, Misses: 9  
  
-s 1 –n 10 FIFO  
Hits: 2, Misses: 8  
  
-s 2 –n 10 FIFO  
Hits: 4, Misses: 6

-s 0 –n 10 OPT  
Hits: 4, Misses: 6  
  
-s 1 –n 10 OPT  
Hits: 3, Misses: 7

-s 2 –n 10 OPT  
Hits: 4, Misses: 6

1. We will need a cache of at least 80 to 100 to improve performance dramatically and approach OPT, as the graph for OPT is not linear, but more like logarithmic. The greater the cache size, the higher the hit rate.
2. I would not expect policies to perform that much differently even though it is a different trace. I believe it all really depends on the cache size. According to the workload graph, we see that as we increase the cache size, the hit rate tends to improve dramatically as the graph seems to rise up rather quickly.
3. LRU performs a lot better than FIFO on the trace with some locality. This is because LRU uses low hardware and power consumption. CLOCK does not perform as well as LRU does and this also applies to CLOCK with different number of CLOCK bits.