Output for MTF List:

Average number of nodes traversed per access (uniform): 497.148

Average number of nodes traversed per access (normal): 386.33

Output for Linked List:

Average number of nodes traversed per access (uniform): 498.454

Average number of nodes traversed per access (normal): 500.167

The uniform distribution of numbers for the linked lists adds numbers from 0 to 999 randomly, in order to produce a uniform distribution. Therefore, the traversals for the linked list vs the MTF list are nearly identical because moving the most accessed nodes to the front of the list does not increase efficiency for a uniform distribution.

The normal distribution results in some numbers being accessed more frequently because of the probability of certain numbers existing in the list. This allows the MTF list to take advantage of its move-to-front feature and reduce the number of traversals made for frequently accessed numbers in the list. This is demonstrated by comparing the MTF list’s number of traversals (386.33) to the linked list’s number of traversals (500.167).