1 SELF-ORGANIZING LISTS

Singly and doubly linked lists require sequential search to locate an element or to see that it is not in the list, we can improve the efficiency of the search by dynamically organizing the list in a certain manner. This organization depends on the configuration of data; thus, the stream of data requires reorganizing the nodes already on the list. There are many different ways to organize the lists, and this section describes four of them.

1. Move-to front method. After the desired element is located, put it at the beginning of the list.

2. Transpose method. After the desired element is located, swap it with its predecessor unless it is at the head of the list.

3. Count method. Order the list by the number of times elements are being accessed.

4. Ordering method. Order the list using certain criteria natural for information under Scrutiny.

In the first three methods, new information is stored in a node added to the end of the list (1); in the fourth method, new information is stored in a node inserted somewhere in the list to maintain the order of the list.
Figure 1: Self Organizing List