Here, a length field is added to the symbol table entry to indicate the number of storage units required by the name.

<u>Note</u>: The only advantage of using variable length organization is that it requires less storage than the one used for fixed length entries. But these variable length entries can be located by performing simple calculations. They can only be located by sequential search which increases the processing cost. Therefore, fixed length entries are mostly used.

Data Structures for Symbol tables :

The three symbol - table mechanisms are linear lists, trees and hash tables.

<u>Linear list</u>: The simplest way to implement a symbol table is as a linear list of records where each record describes one word. The symbols exist in the table in their order of arrival and are not sorted. The new names are added to the table in the order of their arrival. Whenever a new name is to be added in the table, first the table is searched linearly or sequentially to check whether the name is already present in the table or not. If not then the record for new name is created and added to the list at a position given by the variable pointer as shown in the figure below.