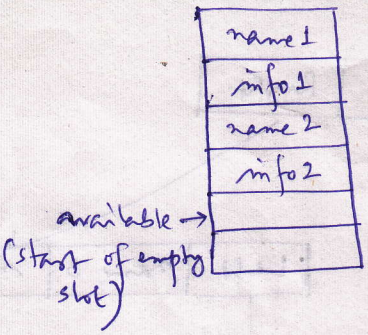

The average number of comparisons 'p' required for search are $p = (n+1)/2$ for successful search and $p = n$ for unsuccessful search where n is number of records in symbol table.

The advantage of this organization is it takes less space and additions to the table is single but the disadvantage is higher accessing time.

Search trees: In this, we add two links left and right in each record which points the record in the search tree. Whenever a name is to be added first the name is searched in the tree. If it does not exist then a record for the new name is created and added at the proper position in the search tree.

If names are encountered in a random order, the average length of a path in the tree will be proportional to $\log n$, where 'n' is the number of names. Since each search follows one path from the root, the expected time needed to enter 'n' names and make 'm' inquiries is proportional to $(n+m) \log n$.

Note: If 'n' is greater than about 50, this has advantages over the linear organization.