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Implementation of Symbol Table

Implementation symbol table by hash table:

A hash table is a data structure used to implement a symbol table (associative array), a structure that can map keys to values.Here we implemented the symbol table using a hash table with separate chaining. When we search or insert, we first hash to find the list that could contain the key, then sequentially search through that list for the key, and if we want to insert, we insert to the beginning of the list. The main operations of a hash table using separate chaining technique would be as usual; get, put, delete, contains & isEmpty. The structure of the symbol table is declared with integer and character pointer. Integers act as info and id key value pairs. Here we have an insert function and display function. In this implementation, identifiers are inserted into a hash table with sequentially generated keys. The idea is to make each cell of the hash table pointed to the array of the records that have hash function value. The advantage is that implementation is simple.

Implementation symbol table by linked list:

The structure of the symbol table is created with integers, string and pointer to the next element. The string is the value of identifying a pointer link to the next element. Here, insert function is created to insert identifiers and display function is used to display the identifiers. The advantage is we can add and delete identifiers.