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CSE-C

Analysis of different implementation of symbol table in C.

(i) using linked list:-

Structure of symbol table is created with integers, string and pointer to next element as members. The string is value of identifier. a pointer links to next element.

The insert function is created to add identifier to structure and display is used to show all stored identifiers. the symbol table stores the Id and info about the identifier. the advantage of using linked list are can easily add and delete identifiers and additional info.

(ii) Symbol table using Hashtable:

Structure of symbol table is declared, with integer and character pointer symbols. The integer and char act as info and Id key value part. There is also insert and display functions. The code automatically takes in identifier and insert them to hash table with sequentually generated keys. to stop the while loop enter 0 and the stored info and identifier are displayed.

(iii) Symbol table using linear list:-

Declare a two dimensional array of characters each row in the data structure stores one identifier, function Symbol table that does inserting and searching operations into linear list. The search operator goes through each element in list and compares it to curred id to check if identifier is already present, then the insert function is used if identifier is not present.

(program of linked list and hashtable implementally attached in zip file with outputs).