COMPILER DESIGN

LAB EXERCISE WEEK-3

K. Bineeth kumar
AP19110010396
CSE-C

Analysis of different implementations of symbol table in C.

① 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 optionfunction is created to add identifiers 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, we can add and delete identifiers and additional info.

② Symbol table using Hash Table:

structure of symbol table is declared, with integer and character pointer members. The integer and character act as info and Id key value pair. There is also insert and display functions. This Code automatically takes in Identifier and inserts them to hash table with sequentially generated keys. To stop the while loop enter 0 and the stored info and identifier are displayed.

③ Symbol table using linear list:

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