CODE

#include <stdio.h>

#include <string.h>

#include <stdlib.h>

#define SIZE 50

struct Symbol {

char name[20];

char type[10];

int address;

} table[SIZE];

int count = 0;

void insert() {

if (count >= SIZE) {

printf("\nSymbol Table Full!\n");

return;

}

printf("\nEnter symbol name: ");

scanf("%s", table[count].name);

printf("Enter symbol type: ");

scanf("%s", table[count].type);

printf("Enter address: ");

scanf("%d", &table[count].address);

count++;

printf("Symbol inserted successfully.\n");

}

void display() {

int i;

if (count == 0) {

printf("\nSymbol Table Empty!\n");

return;

}

printf("\nSymbol Table:\n");

printf("--------------------------------------\n");

printf("Index Name Type Address\n");

printf("--------------------------------------\n");

for (i = 0; i < count; i++) {

printf("%-7d%-12s%-10s%d\n", i, table[i].name, table[i].type, table[i].address);

}

printf("--------------------------------------\n");

}

void search() {

char name[20];

int i, found = 0;

printf("\nEnter symbol name to search: ");

scanf("%s", name);

for (i = 0; i < count; i++) {

if (strcmp(table[i].name, name) == 0) {

printf("Symbol found: Name=%s, Type=%s, Address=%d\n", table[i].name, table[i].type, table[i].address);

found = 1;

break;

}

}

if (!found) {

printf("Symbol not found.\n");

}

}

void delete() {

char name[20];

int i, j, found = 0;

printf("\nEnter symbol name to delete: ");

scanf("%s", name);

for (i = 0; i < count; i++) {

if (strcmp(table[i].name, name) == 0) {

found = 1;

for (j = i; j < count - 1; j++) {

table[j] = table[j + 1];

}

count--;

printf("Symbol deleted successfully.\n");

break;

}

}

if (!found) {

printf("Symbol not found.\n");

}

}

void modify() {

char name[20];

int i, found = 0;

printf("\nEnter symbol name to modify: ");

scanf("%s", name);

for (i = 0; i < count; i++) {

if (strcmp(table[i].name, name) == 0) {

found = 1;

printf("Enter new type: ");

scanf("%s", table[i].type);

printf("Enter new address: ");

scanf("%d", &table[i].address);

printf("Symbol modified successfully.\n");

break;

}

}

if (!found) {

printf("Symbol not found.\n");

}

}

int main() {

int choice;

while (1) {

printf("\n--- Symbol Table Operations ---\n");

printf("1. Insert\n2. Display\n3. Search\n4. Delete\n5. Modify\n6. Exit\n");

printf("Enter your choice: ");

scanf("%d", &choice);

switch (choice) {

case 1: insert(); break;

case 2: display(); break;

case 3: search(); break;

case 4: delete(); break;

case 5: modify(); break;

case 6: exit(0);

default: printf("Invalid choice! Try again.\n");

}

}

return 0;

}





