//symbol table implementation

#include<stdio.h>

#include<conio.h>

#include<alloc.h>

#include<stdlib.h>

#include<string.h>

#define NULL 0

int size=0;

void insert();

void display();

int search(char lab[]);

struct symtab

{

char label[10],symbol[10];

int addr;

struct symtab \*next;

};

struct symtab \*first,\*next,\*last;

void main()

{

int op,y;

char la[10];

clrscr();

do

{

printf("symbol table implementation\n");

printf("1 for insert\n");

printf("2 for display\n");

printf("3 for delete\n");

printf("enter your option\n");

scanf("%d",&op);

switch(op)

{

case 1:insert();

break;

case 2: display();

break;

case 3: printf("enter the label to be searched\n");

scanf("%s",&la);

y=search(la);

if(y==1)

printf("the label is present in the symbol table\n");

else

printf("the label doesnot exist in the symbol table\n");

break;

case 4: exit(0);

}

}while(op<4);

getch();

}

void insert()

{

int n;

char l[10];

printf("enter the label\n");

scanf("%s",&l);

n=search(l);

if(n==1)

{

printf("the label already exist duplicate cannot be inserted\n");

}

else

{

struct symtab \*p;

p=(symtab\*)malloc(sizeof(struct symtab));

strcpy(p->label,l);

printf("enter the symbol\n");

scanf("%s",&p->symbol);

printf("enter the address\n");

scanf("%d",&p->addr);

p->next=NULL;

if(size==0)

{

first=p;

last=p;

}

else

{

last->next=p;

last=p;

}

size++;

}

printf("label inserted\n");

}

void display()

{

int i;

struct symtab \*p;

p=first;

printf("label symbol address\n");

for(i=0;i<size;i++)

{

printf("%s\t %s\t %d\n",p->label,p->symbol,p->addr);

p=p->next;

}

}

int search(char lab[])

{

int i,flag=0;

struct symtab \*p;

p=first;

for(i=0;i<size;i++)

{

if(strcmp(p->label,lab)==0)

flag=1;

p=p->next;

}

return flag;

}