Implement a C program to perform symbol table operations.

Program:

#include<stdio.h>

#include<stdlib.h>

#include<string.h>

int cnt=0;

struct symtab

{

char label[20];

int addr;

}

sy[50];

void insert();

int search(char \*);

void display();

void modify();

int main()

{

int ch,val;

char lab[10];

do

{

printf("\n1.insert\n2.display\n3.search\n4.modify\n5.exit\n");

scanf("%d",&ch);

switch(ch)

{

case 1:

insert();

break;

case 2:

display();

break;

case 3:

printf("enter the label");

scanf("%s",lab);

val=search(lab);

if(val==1)

printf("label is found");

else

printf("label is not found");

break;

case 4:

modify();

break;

case 5:

exit(0);

break;

}

}while(ch<5);

}

void insert()

{

int val;

char lab[10];

int symbol;

printf("enter the label");

scanf("%s",lab);

val=search(lab);

if(val==1)

printf("duplicate symbol");

else

{

strcpy(sy[cnt].label,lab);

printf("enter the address");

scanf("%d",&sy[cnt].addr);

cnt++;

}

}

int search(char \*s)

{

int flag=0,i; for(i=0;i<cnt;i++)

{

if(strcmp(sy[i].label,s)==0)

flag=1;

}

return flag;

}

void modify()

{

int val,ad,i;

char lab[10];

printf("enter the labe:");

scanf("%s",lab);

val=search(lab);

if(val==0)

printf("no such symbol");

else

{

printf("label is found \n");

printf("enter the address");

scanf("%d",&ad);

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

{

if(strcmp(sy[i].label,lab)==0)

sy[i].addr=ad;

}

}

}

void display()

{

int i;

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

printf("%s\t%d\n",sy[i].label,sy[i].addr);

}

Output:

1.insert

2.display

3.search

4.modify

5.exit

1

enter the label a

enter the address 100

1.insert

2.display

3.search

4.modify

5.exit

2

a 100

1.insert

2.display

3.search

4.modify

5.exit

3

enter the label a

label is found

1.insert

2.display

3.search

4.modify

5.exit

4

enter the labe: a

label is found

enter the address 200

1.insert

2.display

3.search

4.modify

5.exit

2

a 200

1.insert

2.display

3.search

4.modify

5.exit