

10. Implement a C program to perform symbol table operations.

```
#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;
```

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                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");

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        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);
    }
}

```

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        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);
}

```

```

C:\Users\hemant\Desktop\con
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

```