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Assignment Week 4

```
#include <stdio.h>
#include <string.h>
#define MAX 8
typedef struct stack
{
    int top;
    char license[MAX][20];
    char arrival[MAX][20];
    char departure[MAX][20];
    int moved[MAX];
} stack;

void arrival(stack *st)
{
    if (st->top == MAX)
        printf("Parking full");
    else
    {
        ++(st->top);
        char arrival[20], departure[20], license[20];
        printf("Enter License no: ");
        scanf("%s", license);
        fflush(stdin);
        printf("Arrival: ");
        scanf("%s", arrival);
        fflush(stdin);
        printf("Departure: ");
        scanf("%s", departure);
        fflush(stdin);

        strcpy(st->license[st->top], license);
        strcpy(st->arrival[st->top], arrival);
        strcpy(st->departure[st->top], departure);
        st->moved[st->top] = 0;
    }
}

void depart(stack *st)
{
    char license[20];
    printf("Enter license no: ");
```

```
    scanf("%s", license);

    stack temp;
    temp.top = -1;
    if (strcmp(st->license[st->top], license) == 0)
    {
        printf("topmost eh\n");
        printf("No of times removed: %d\n", st->moved[st->top]);
        st->top--;
        return;
    }

    for (int i = st->top; i >= 0; i--)
    {
        if (strcmp(st->license[i], license) == 0)
        {
            printf("No of times moved: %d\n", st->moved[i]);
            st->top--;
            while (temp.top >= 0)
            {
                ++(st->top);
                strcpy(st->arrival[st->top],
temp.arrival[temp.top]);
                strcpy(st->departure[st->top],
temp.departure[temp.top]);
                strcpy(st->license[st->top],
temp.license[temp.top]);
                st->moved[st->top] = temp.moved[temp.top];
                --(temp.top);
            }
            return;
        }
        else
        {
            ++(temp.top);
            (st->moved[st->top])++;
            strcpy(temp.arrival[temp.top],
st->arrival[st->top]);
            strcpy(temp.departure[temp.top],
st->departure[st->top]);
            strcpy(temp.license[temp.top],
st->license[st->top]);
            temp.moved[temp.top] = st->moved[st->top];
            --(st->top);
        }
    }
}
```

```
void display(stack *st)
{
    int i = st->top;
    while (i >= 0)
    {
        printf("\n%s %s %s %d\n", st->license[i],
st->arrival[i], st->departure[i], st->moved[i]);
        i--;
    }
}

int main()
{
    stack st;
    st.top = -1;
    int choice;
    do
    {
        printf("\n1. Arrival 2. Departure 3. Display\n");
        scanf("%d", &choice);
        switch (choice)
        {
        case 1:
            arrival(&st);
            break;
        case 2:
            depart(&st);
            break;
        case 3:
            display(&st);
            break;
        }
    } while (choice < 4);

    return 0;
}
```

Output:

```
PS C:\Users\adith\Documents\C Programs\assignment> cd "c:

1. Arrival 2. Departure 3. Display
1
Enter License no: ka65
Arrival: 3:22
Departure: 4:67

1. Arrival 2. Departure 3. Display
1
Enter License no: me485
Arrival: 2:54
Departure: 4:55

1. Arrival 2. Departure 3. Display
1
Enter License no: lh455
Arrival: 5:13
Departure: 4:21

1. Arrival 2. Departure 3. Display
1
Enter License no: sr211
Arrival: 3:55
Departure: 2:44

1. Arrival 2. Departure 3. Display
1
Enter License no: ke234
Arrival: 12:34
Departure: 4:33
```

```
1. Arrival 2. Departure 3. Display
3

ke234 12:34 4:33 0

sr211 3:55 2:44 0

lh455 5:13 4:21 0

me485 2:54 4:55 0

ka65 3:22 4:67 0

1. Arrival 2. Departure 3. Display
2
Enter license no: ka65
No of times moved: 0

1. Arrival 2. Departure 3. Display
3

ke234 12:34 4:33 1

sr211 3:55 2:44 1

lh455 5:13 4:21 1

me485 2:54 4:55 1

1. Arrival 2. Departure 3. Display
2
Enter license no: sr211
No of times moved: 1

1. Arrival 2. Departure 3. Display
3

ke234 12:34 4:33 2

lh455 5:13 4:21 1

me485 2:54 4:55 1
```