Programmer Name: **Param Chordiya**
Batch: **E5**

Problem Statement:

Implement database management using array of structures without pointer to array
1. Create, 2. Display, 3. Modify, 4. Append, 5. Search 6. Sort.

INPUT CODE:

```
#include<stdio.h>
struct car{
char name[20];
float price;
char color[10];
int id;
int rating;
};
void display(struct car[], int);
void read(struct car[], int);
void modify(struct car[], int);
void delete(struct car[], int);
void insert(struct car[], int);
void search(struct car[], int);
void append(struct car[], int);
void sort(struct car[], int);
void swap(struct car*, struct car*);
int n;
void main(){
printf("\n**********************************\n\t  ROLL
NO:22119\n**********************************\n");
struct car c[100];
int i,ch;
```

```
printf(" Enter the no. of cars u want to create ");
scanf("%d", &n);
read(c,n);
printf("\n\n1. Display \n2. Modify \n3. Delete \n4. insert \n5. Search \n6. Append \n7. Sort");
printf("\nEnter the choice ");
scanf("%d", &ch);
switch(ch){
case 1:
display(c,n);
break;
case 2:
modify(c,n);
break;
case 3:
delete(c,n);
break;
case 4:
insert(c,n);
break;
case 5:
search(c,n);
break;
case 6:
append(c,n);
break;
case 7:
sort(c,n);
break;
}
getch();
}
void read(struct car c[], int n){
int i;
for(i=0; i<n; i++){
printf("\n Enter ID for car %d ",i+1);
scanf("%d", &c[i].id);
printf("\n Enter the name of car %d ", i+1);
```

```
scanf("%s", &c[i].name);
printf("\n Enter the color of car %d ", i+1);
scanf("%s", &c[i].color);
printf("\n Enter the price of car %d ", i+1);
scanf("%f", &c[i].price);
printf("\n Enter the rating of car %d ", i+1);
scanf("%d", &c[i].rating);
printf("================================================================
===============");
}
display(c,n);
}
void display(struct car c[], int n){
int i;
//printf("================================================================
=================\n");
printf("\n CarID\t CarName \tCarColor \t CarPrice \tCarRating \n");
printf("================================================================
================\n");
for(i=0; i<n; i++){
printf("\n %d", c[i].id);
printf("\t %s", c[i].name);
printf("\t\t %s", c[i].color);
printf("\t\t %f", c[i].price);
printf("\t %d", c[i].rating);
}
}
void modify(struct car c[], int n){
int i, k;
printf("Enter the carID to be modified ");
scanf("%d", &k);
for(i=0; i<n; i++){
if(k == c[i].id){
read(c,1);
}
}
display(c,n);
```

```
}
void delete(struct car c[], int n){
int i, k, index;
printf("Enter the carID to be deleted ");
scanf("%d", &k);
for(i=0; i<n; i++){
if(k == c[i].id)
{
index = i;
break;
}
}
for(i = index; i<n; i++)
{
c[i] = c[i+1];
}
n--;
display(c,n);
}
void insert(struct car c[], int n){
int num, l, i,j;
printf("\nEnter the location ");
scanf("%d", &l);
for(i = n-1; i>=(l-1); i--)
{
c[i+1] = c[i];
}
n++;
j = l-1;
printf(" Enter the record to be added ");
printf("\n Enter ID for car ");
scanf("%d", &c[j].id);
printf("\n Enter the name of car ");
scanf("%s", &c[j].name);
printf("\n Enter the color of car ");
scanf("%s", &c[j].color);
printf("\n Enter the price of car ");
```

```
scanf("%f", &c[j].price);
printf("\n Enter the rating of car ");
scanf("%d", &c[j].rating);
display(c,n);
}
void search(struct car c[], int n){
int ss, i;
printf("Enter CarID to be searched ");
scanf("%d", &ss);
for(i = 0; i<n ; i++){
if(ss == c[i].id){
printf("\n CarID\t CarName \tCarColor \t CarPrice \tCarRating \n");
printf("================================================================
================\n");
printf("\n %d", c[i].id);
printf("\t %s", c[i].name);
printf("\t\t %s", c[i].color);
printf("\t\t %f", c[i].price);
printf("\t %d", c[i].rating);
break;
}
}
}
void append(struct car c[], int n){
int i = n;
printf("Enter the record to be added ");
printf("\n Enter ID for car ");
scanf("%d", &c[i].id);
printf("\n Enter the name of car ");
scanf("%s", &c[i].name);
printf("\n Enter the color of car ");
scanf("%s", &c[i].color);
printf("\n Enter the price of car ");
scanf("%f", &c[i].price);
printf("\n Enter the rating of car ");
scanf("%d", &c[i].rating);
n = n+1;
```

```
display(c,n);
}
void sort(struct car c[], int n){
int p,i;
for(p=1; p<n; p++){
for(i=0; i<n-p; i++){
if(c[i].id > c[i+1].id){
swap(&c[i], &c[i+1]);
}
}
}
display(c,n);
}
void swap(struct car* c1, struct car* c2){
 struct car temp = *c1;
*c1 = *c2;
*c2 = temp;
}
```

OUTPUT:

```
**********************************
         ROLL NO:22119
**********************************
 Enter the no. of cars u want to create 1

 Enter ID for car 1 4596

 Enter the name of car 1 swift

 Enter the color of car 1 red

 Enter the price of car 1 456325

 Enter the rating of car 1 4
================================================================================
 CarID   CarName        CarColor         CarPrice       CarRating
================================================================================

 4596    swift           red            456325.000000   4

1. Display
2. Modify
3. Delete
4. insert
5. Search
6. Append
7. Sort
Enter the choice 2
Enter the carID to be modified 4596

 Enter ID for car 1 9965

 Enter the name of car 1 amaze

 Enter the color of car 1 blue

 Enter the price of car 1 996352

 Enter the rating of car 1 5
================================================================================
 CarID   CarName        CarColor         CarPrice       CarRating
================================================================================

 9965    amaze           blue           996352.000000   5
 CarID   CarName        CarColor         CarPrice       CarRating
================================================================================

 9965    amaze           blue           996352.000000   5
```

```
**********************************
          ROLL NO:22119
**********************************
 Enter the no. of cars u want to create 2

 Enter ID for car 1 4596

 Enter the name of car 1 swift

 Enter the color of car 1 red

 Enter the price of car 1 996352

 Enter the rating of car 1 4
================================================================================
 Enter ID for car 2 4486

 Enter the name of car 2 amaze

 Enter the color of car 2 blue

 Enter the price of car 2 869953

 Enter the rating of car 2 5
================================================================================
 CarID   CarName        CarColor         CarPrice       CarRating
================================================================================

 4596    swift           red            996352.000000   4
 4486    amaze           blue           869953.000000   5

1. Display
2. Modify
3. Delete
4. insert
5. Search
6. Append
7. Sort
Enter the choice 3
Enter the carID to be deleted 4486

 CarID   CarName        CarColor         CarPrice       CarRating
================================================================================

 4596    swift           red            996352.000000   4
```

```
**********************************
          ROLL NO:22119
**********************************
 Enter the no. of cars u want to create 2

 Enter ID for car 1 4596

 Enter the name of car 1 swift

 Enter the color of car 1 red

 Enter the price of car 1 996352

 Enter the rating of car 1 4
================================================================================
 Enter ID for car 2 4486

 Enter the name of car 2 amaze

 Enter the color of car 2 blue

 Enter the price of car 2 869953

 Enter the rating of car 2 5
================================================================================
 CarID   CarName        CarColor         CarPrice       CarRating
================================================================================

 4596    swift           red            996352.000000   4
 4486    amaze           blue           869953.000000   5

1. Display
2. Modify
3. Delete
4. insert
5. Search
6. Append
7. Sort
Enter the choice 4
```

```
Enter the location 3
 Enter the record to be added
 Enter ID for car 4723

 Enter the name of car creta

 Enter the color of car white

 Enter the price of car 16555235

 Enter the rating of car 5

 CarID   CarName        CarColor         CarPrice       CarRating
================================================================================

 4596    swift           red             996352.000000   4
 4486    amaze           blue            869953.000000   5
 4723    creta           white           16555235.000000         5
--------------------------------
Process exited after 83.25 seconds with return value 13
Press any key to continue . . .
```

```
**********************************
          ROLL NO:22119
**********************************
 Enter the no. of cars u want to create 2

 Enter ID for car 1 4596

 Enter the name of car 1 swift

 Enter the color of car 1 red

 Enter the price of car 1 996352

 Enter the rating of car 1 4
================================================================================
 Enter ID for car 2 4486

 Enter the name of car 2 amaze

 Enter the color of car 2 blue

 Enter the price of car 2 869953

 Enter the rating of car 2 5
================================================================================
 CarID   CarName        CarColor         CarPrice       CarRating
================================================================================

 4596    swift           red            996352.000000   4
 4486    amaze           blue           869953.000000   5

1. Display
2. Modify
3. Delete
4. insert
5. Search
6. Append
7. Sort
Enter the choice 5
Enter CarID to be searched 4486

 CarID   CarName        CarColor         CarPrice       CarRating
================================================================================

 4486    amaze           blue           869953.000000   5
```

```
**********************************
         ROLL NO:22119
**********************************
 Enter the no. of cars u want to create 3

 Enter ID for car 1 4596

 Enter the name of car 1 swift

 Enter the color of car 1 red

 Enter the price of car 1 996352

 Enter the rating of car 1 4
================================================================================
 Enter ID for car 2 4486

 Enter the name of car 2 amaze

 Enter the color of car 2 blue

 Enter the price of car 2 869953

 Enter the rating of car 2 5
================================================================================
 Enter ID for car 3 4723

 Enter the name of car 3 creta

 Enter the color of car 3 white

 Enter the price of car 3 16555235

 Enter the rating of car 3 5
================================================================================
 CarID   CarName        CarColor         CarPrice       CarRating
================================================================================

 4596    swift           red            996352.000000   4
 4486    amaze           blue           869953.000000   5
 4723    creta           white          16555235.000000         5
```

```
1. Display
2. Modify
3. Delete
4. insert
5. Search
6. Append
7. Sort
Enter the choice 6
Enter the record to be added
 Enter ID for car 4486

 Enter the name of car amaze

 Enter the color of car wgite

 Enter the price of car 900000

 Enter the rating of car 5

 CarID   CarName        CarColor         CarPrice       CarRating
================================================================================

 4596    swift           red             996352.000000   4
 4486    amaze           blue            869953.000000   5
 4723    creta           white           16555235.000000         5
 4486    amaze           wgite           900000.000000   5
```