

```
#include <stdio.h>

#include <stdlib.h>

#include <string.h>
```

```
#define max 30
```

```
// Defining the student structure
```

```
typedef struct student {

    int prn;

    double mob_no;

    char name[30];

    char branch[15];

    float per;

} stu;
```

```
// Function Prototypes
```

```
void create(stu obj[], int n);

void disp(stu obj[], int n);

int insert(stu obj[], int n);

void search(stu obj[], int n);

int delete(stu obj[], int n);

void sort(stu obj[], int n);

void modify(stu obj[], int n);
```

```
int main() {

    stu obj[max];

    int ch, n = 0; // Initialize n to 0 to avoid reading garbage value

    while(1) {

        printf("\n\n Menu:-\n");

        printf("1. Create record\n");
```

```
printf("2. Display record\n");
printf("3. Insert record\n");
printf("4. Search record\n");
printf("5. Delete record\n");
printf("6. Sort record\n");
printf("7. Modify record\n");
printf("0. Exit\n");
printf("Enter your choice: ");
scanf("%d", &ch);
```

```
switch(ch) {
    case 1:
        printf("\nEnter number of records to create: ");
        scanf("%d", &n);
        create(obj, n);
        break;
    case 2:
        disp(obj, n);
        break;
    case 3:
        n = insert(obj, n);
        break;
    case 4:
        search(obj, n);
        break;
    case 5:
        n = delete(obj, n);
        break;
    case 6:
        sort(obj, n);
        break;
```

```

        case 7:
            modify(obj, n);
            break;
        case 0:
            printf("\n\nThank you...\n\n");
            exit(0);
            break;
        default:
            printf("\n\nInvalid choice! Please enter a valid option.\n");
    }
}
}

```

// Function to create records

```

void create(stu obj[], int n) {
    for (int i = 0; i < n; ++i) {
        printf("\nEnter record %d:\n", i + 1);
        printf("Enter PRN no: ");
        scanf("%d", &obj[i].prn);
        printf("Enter Mobile no: ");
        scanf("%lf", &obj[i].mob_no); // Use %lf for double
        printf("Enter Name: ");
        scanf("%s", obj[i].name);
        printf("Enter Branch: ");
        scanf("%s", obj[i].branch);
        printf("Enter Percentage: ");
        scanf("%f", &obj[i].per);
    }
    printf("\nRecords created successfully.\n");
}

```

```
// Function to display records
```

```
void disp(stu obj[], int n) {
```

```
    printf("\n%-10s %-10s %-15s %-15s %-10s\n", "Record", "PRN NO.", "Mobile No.", "Name",  
    "Branch", "Percentage");
```

```
    for (int i = 0; i < n; ++i) {
```

```
        printf("%-10d %-10d %-15.0lf %-15s %-10s %-10.2f\n", i + 1, obj[i].prn, obj[i].mob_no,  
        obj[i].name, obj[i].branch, obj[i].per);
```

```
    }
```

```
}
```

```
// Function to insert a new record
```

```
int insert(stu obj[], int n) {
```

```
    if (n == max) {
```

```
        printf("\n\nRecord full. Cannot insert more records.\n");
```

```
        return n;
```

```
    } else {
```

```
        printf("\n\nEnter the record to be inserted:\n");
```

```
        printf("Enter PRN no: ");
```

```
        scanf("%d", &obj[n].prn);
```

```
        printf("Enter Mobile no: ");
```

```
        scanf("%lf", &obj[n].mob_no); // Use %lf for double
```

```
        printf("Enter Name: ");
```

```
        scanf("%s", obj[n].name);
```

```
        printf("Enter Branch: ");
```

```
        scanf("%s", obj[n].branch);
```

```
        printf("Enter Percentage: ");
```

```
        scanf("%f", &obj[n].per);
```

```
        printf("\nRecord inserted successfully.\n");
```

```
        return n + 1;
```

```
    }
```

```
}
```

```
// Function to search a record by PRN number

void search(stu obj[], int n) {

    int p, i;

    printf("\n\nEnter PRN no. of the record to search: ");

    scanf("%d", &p);

    for (i = 0; i < n; ++i) {

        if (p == obj[i].prn) {

            printf("Record found!\n");

            printf("\nRecord %d:\n", i + 1);

            printf("PRN no: %d\n", obj[i].prn);

            printf("Mobile no: %.0lf\n", obj[i].mob_no);

            printf("Name: %s\n", obj[i].name);

            printf("Branch: %s\n", obj[i].branch);

            printf("Percentage: %.2f\n", obj[i].per);

            break;

        }

    }

    if (i == n)

        printf("\n\nRecord not found!\n");

}
```

```
// Function to delete a record by PRN number

int delete(stu obj[], int n) {

    int p, i;

    printf("\n\nEnter PRN no. of the record to delete: ");

    scanf("%d", &p);

    for (i = 0; i < n; ++i) {

        if (p == obj[i].prn) {

            printf("Record to be deleted:\n");

            printf("PRN no: %d\n", obj[i].prn);

            printf("Mobile no: %.0lf\n", obj[i].mob_no);


```

```

        printf("Name: %s\n", obj[i].name);

        printf("Branch: %s\n", obj[i].branch);

        printf("Percentage: %.2f\n", obj[i].per);

        break;
    }
}

if (i == n) {
    printf("\n\nRecord not found!\n");

    return n;
} else {
    for (; i < n - 1; ++i)
        obj[i] = obj[i + 1];

    printf("\nRecord deleted successfully.\n");

    return n - 1;
}
}

// Function to sort records by PRN number
void sort(stu obj[], int n) {
    stu temp;
    for (int i = 0; i < n - 1; ++i) {
        for (int j = i + 1; j < n; ++j) {
            if (obj[i].prn > obj[j].prn) {
                temp = obj[i];
                obj[i] = obj[j];
                obj[j] = temp;
            }
        }
    }

    printf("\nRecords sorted by PRN number.\n");
}

```

```

// Function to modify a record by PRN number
void modify(stu obj[], int n) {
    int p, i;
    printf("\n\nEnter PRN no. of the record to modify: ");
    scanf("%d", &p);
    for (i = 0; i < n; ++i) {
        if (p == obj[i].prn) {
            printf("Enter new PRN no.: ");
            scanf("%d", &obj[i].prn);
            printf("Enter new Mobile no.: ");
            scanf("%lf", &obj[i].mob_no); // Use %lf for double
            printf("Enter new Name: ");
            scanf("%s", obj[i].name);
            printf("Enter new Branch: ");
            scanf("%s", obj[i].branch);
            printf("Enter new Percentage: ");
            scanf("%f", &obj[i].per);
            printf("\nRecord modified successfully.\n");
            break;
        }
    }
    if (i == n) {
        printf("\n\nRecord not found!\n");
    }
}

```

Menu:-

1. Create record
2. Display record
4. Search record
5. Delete record
6. Sort record
7. Modify record
0. Exit

Enter your choice: 1

Enter number of records to create: 4

Enter record 1:

Enter PRN no: 2341064

Enter Mobile no: 9730503882

Enter Name: Kamlesh

Enter Branch: Computer

Enter Percentage: 90.5

Enter record 2:

Enter PRN no: 2341058

Enter Mobile no: 7821863422

Enter Name: Parag

Enter Branch: Computer

Enter Percentage: 91.65

Enter record 3:

Enter PRN no: 2341046

Enter Mobile no: 7249382859

Enter Name: Asmit

Enter Branch: Computer

Enter Percentage: 92.56

Enter record 4:

Enter PRN no: 2341033

Enter Mobile no: 7709498822

Enter Name: Ojas

Enter Branch: Computer

Enter Percentage: 94.25



Records created successfully.

Menu:-

1. Create record
2. Display record
3. Insert record
4. Search record
5. Delete record
6. Sort record
7. Modify record
0. Exit

Enter your choice: 2

Record	PRN NO.	Mobile No.	Name	Branch	
1	2341064	9730503882	Kamlesh	Computer	90.50
2	2341058	7821863422	Parag	Computer	91.65
3	2341046	7249382859	Asmit	Computer	92.56
4	2341033	7709498822	Ojas	Computer	94.25

Menu:-

1. Create record
2. Display record
3. Insert record
4. Search record
5. Delete record
6. Sort record
7. Modify record
0. Exit

Enter your choice: 3

Enter the record to be inserted:

Enter PRN no: 2304122

Enter Mobile no: 7219204122

Enter Name: Yash

Enter Branch: Civil

Enter Percentage: 85.26

Record inserted successfully.

Menu:-

1. Create record
  2. Display record
  3. Insert record
  4. Search record
  5. Delete record
  6. Sort record
  7. Modify record
  0. Exit
- Enter your choice: 2

Record	PRN NO.	Mobile No.	Name	Branch	
1	2341064	9730503882	Kamlesh	Computer	90.50
2	2341058	7821863422	Parag	Computer	91.65
3	2341046	7249382859	Asmit	Computer	92.56
4	2341033	7709498822	Ojas	Computer	94.25
5	2304122	7219204122	Yash	Civil	85.26

Menu:-

1. Create record
  2. Display record
  3. Insert record
  4. Search record
  5. Delete record
  6. Sort record
  7. Modify record
  0. Exit
- Enter your choice: 4

Enter PRN no. of the record to search: 2341064  
Record found!

Record 1:  
PRN no: 2341064  
Mobile no: 9730503882  
Name: Kamlesh  
Branch: Computer  
Percentage: 90.50

Menu:-

1. Create record
2. Display record
3. Insert record
4. Search record
5. Delete record
6. Sort record
7. Modify record
0. Exit

Enter your choice: 5

Enter PRN no. of the record to delete: 2304122

Record to be deleted:

PRN no: 2304122

Mobile no: 7219204122

Name: Yash

Branch: Civil

Percentage: 85.26

Record deleted successfully.

Menu:-

1. Create record
2. Display record
3. Insert record
4. Search record
5. Delete record
6. Sort record
7. Modify record
0. Exit

Enter your choice: 2

Record	PRN NO.	Mobile No.	Name	Branch	
1	2341064	9730503882	Kamlesh	Computer	90.50
2	2341058	7821863422	Parag	Computer	91.65
3	2341046	7249382859	Asmit	Computer	92.56
4	2341033	7709498822	Ojas	Computer	94.25

Menu:-

1. Create record
2. Display record
3. Insert record
4. Search record
5. Delete record
6. Sort record
7. Modify record
0. Exit

Enter your choice: 6

Records sorted by PRN number.

Menu:-

1. Create record
2. Display record
3. Insert record
4. Search record
5. Delete record
6. Sort record
7. Modify record
0. Exit

Enter your choice: 2

Record	PRN NO.	Mobile No.	Name	Branch	
1	2341033	7709498822	Ojas	Computer	94.25
2	2341046	7249382859	Asmit	Computer	92.56
3	2341058	7821863422	Parag	Computer	91.65
4	2341064	9730503882	Kamlesh	Computer	90.50

Menu:-

1. Create record
2. Display record
3. Insert record
4. Search record
5. Delete record
6. Sort record
7. Modify record
0. Exit

Enter your choice: 7

Enter PRN no. of the record to modify: 2341058

Enter new PRN no.: 2341059

Enter new Mobile no.: 984575222

Enter new Name: XYZ

Enter new Branch: Computer

Enter new Percentage: 86.23

Record modified successfully.

Menu:-

1. Create record
2. Display record
3. Insert record
4. Search record
5. Delete record
6. Sort record
7. Modify record
0. Exit

Enter your choice: 2

Record	PRN NO.	Mobile No.	Name	Branch	
1	2341033	7709498822	Ojas	Computer	94.25
2	2341046	7249382859	Asmit	Computer	92.56
3	2341059	984575222	XYZ	Computer	86.23
4	2341064	9730503882	Kamlesh	Computer	90.50

Menu:-

1. Create record
2. Display record
3. Insert record
4. Search record
5. Delete record
6. Sort record
7. Modify record
0. Exit