

## All things together: A course Project

```
#include<stdio.h>

struct student
{
int rollno;

char name[30];

float mark;

}stud;

// FUNCTION TO INSERT RECORDS TO THE FILE

void insert()
{
FILE *fp;

fp = fopen("Record", "a");

printf("Enter the Roll no  :");

scanf("%d", &stud.rollno);

printf("Enter the Name  :");

scanf("%s", &stud.name);

printf("Enter the mark  :");

scanf("%f", &stud.mark);

fwrite(&stud, sizeof(stud), 1, fp);

fclose(fp);

}

// FUNCTION TO DISPLAY RECORDS

void disp()
{
```

```

FILE *fp1;

fp1 = fopen("Record", "r");

printf("\nRoll Number\tName\tMark\n\n");

while (fread(&stud, sizeof(stud), 1, fp1))

printf(" %d\t\t%s\t%.2f\n", stud.rollno, stud.name, stud.mark);

fclose(fp1);

}

// FUNCTION TO CHECK GIVEN ROLL NO IS AVAILABLE //

int avlrollno(int rno)

{

FILE *fp;

int c = 0;

fp = fopen("Record", "r");

while (!feof(fp))

{

fread(&stud, sizeof(stud), 1, fp);

if (rno == stud.rollno)

{

fclose(fp);

return 1;

}

}

fclose(fp);

return 0;

```

```
}  
  
// FUNCTION TO SEARCH THE GIVEN RECORD  
  
void search()  
  
{  
  
FILE *fp2;  
  
int r, s, avl;  
  
printf("\nEnter the Roll no you want to search :");  
  
scanf("%d", &r);  
  
avl = avlrollno(r);  
  
if (avl == 0)  
  
    printf("Roll No %d is not available in the file\n",r);  
  
else  
  
{  
  
    fp2 = fopen("Record", "r");  
  
    while (fread(&stud, sizeof(stud), 1, fp2))  
  
    {  
  
        s = stud.rollno;  
  
        if (s == r)  
  
        {  
  
            printf("\nRoll no = %d", stud.rollno);  
  
            printf("\nName   = %s", stud.name);  
  
            printf("\nMark   = %.2f\n", stud.mark);  
  
        }  
  
    }  
  
}  
  
fclose(fp2);
```

```
}
```

```
}
```

```
// FUNCTION TO DELETE A RECORD
```

```
void deletefile()
```

```
{
```

```
FILE *fpo;
```

```
FILE *fpt;
```

```
int r, s;
```

```
printf("Enter the Roll no you want to delete :");
```

```
scanf("%d", &r);
```

```
if (avlrollno(r) == 0)
```

```
    printf("Roll no %d is not available in the file\n", r);
```

```
else
```

```
{
```

```
    fpo = fopen("Record", "r");
```

```
    fpt = fopen("TempFile", "w");
```

```
    while (fread(&stud, sizeof(stud), 1, fpo))
```

```
    {
```

```
        s = stud.rollno;
```

```
        if (s != r)
```

```
            fwrite(&stud, sizeof(stud), 1, fpt);
```

```
    }
```

```
    fclose(fpo);
```

```
fclose(fpt);

fpo = fopen("Record", "w");
fpt = fopen("TempFile", "r");
while (fread(&stud, sizeof(stud), 1, fpt))
    fwrite(&stud, sizeof(stud), 1, fpo);
printf("\nRECORD DELETED\n");
fclose(fpo);
fclose(fpt);
}

}

// FUNCTION TO UPDATE THE RECORD

void update()
{
    int avl;
    FILE *fpt;
    FILE *fpo;
    int s, r, ch;
    printf("Enter roll number to update:");
    scanf("%d", &r);
    avl = avlrollno(r);
    if (avl == 0)
    {
        printf("Roll number %d is not Available in the file", r);
    }
}
```

```
else
{
fpo = fopen("Record", "r");
fpt = fopen("TempFile", "w");
while (fread(&stud, sizeof(stud), 1, fpo))
{
s = stud.rollno;
if (s != r)
fwrite(&stud, sizeof(stud), 1, fpt);
else
{
printf("\n\t1. Update Name of Roll Number %d", r);
printf("\n\t2. Update Mark of Roll Number %d", r);
printf("\n\t3. Update both Name and Mark of Roll Number %d", r);
printf("\nEnter your choice:");
scanf("%d", &ch);
switch (ch)
{
case 1:
printf("Enter Name:");
scanf("%s", &stud.name);
break;
case 2:
printf("Enter Mark : ");
scanf("%f", &stud.mark);
```

```
break;

case 3:

printf("Enter Name: ");

scanf("%s", &stud.name);

printf("Enter Mark: ");

scanf("%f", &stud.mark);

break;

default:

printf("Invalid Selection");

break;

}

fwrite(&stud, sizeof(stud), 1, fpt);

}

}

fclose(fpo);

fclose(fpt);

fpo = fopen("Record", "w");

fpt = fopen("TempFile", "r");

while (fread(&stud, sizeof(stud), 1, fpt))

{

fwrite(&stud, sizeof(stud), 1, fpo);

}

fclose(fpo);

fclose(fpt);

printf("RECORD UPDATED");
```

```
}  
  
}  
  
/* FUNCTION TO SORT THE RECORD */  
  
void sort()  
  
{  
  
int a[20], count = 0, i, j, t, c;  
  
FILE *fpo;  
  
fpo = fopen("Record", "r");  
  
while (fread(&stud, sizeof(stud), 1, fpo))  
  
{  
  
a[count] = stud.rollno;  
  
count++;  
  
}  
  
c = count;  
  
for (i = 0; i < count - 1; i++)  
  
{  
  
for (j = i + 1; j < count; j++)  
  
{  
  
if (a[i] > a[j])  
  
{  
  
t = a[i];  
  
a[i] = a[j];  
  
a[j] = t;  
  
}  
  
}  
  
}
```



```
}  
printf("Roll No.\tName\t\tMark\n\n");  
count = c;  
for (i = 0; i<count; i++)  
{  
    rewind(fpo);  
    while (fread(&stud, sizeof(stud), 1, fpo))  
    {  
        if (a[i] == stud.rollno)  
            printf("\n %d\t\t %s \t\t %2f",stud.rollno, stud.name, stud.mark);  
    }  
}  
}
```

```
//FUNCTION TO CHECK THE FILE IS EMPTY OR NOT
```

```
int empty()  
{  
    int c = 0;  
    FILE *fp;  
    fp = fopen("Record", "r");  
    while (fread(&stud, sizeof(stud), 1, fp))  
        c = 1;  
    fclose(fp);  
    return c;  
}
```

```

}

// MAIN PROGRAM

void main()

{

int c, emp;

do

{

printf("\n\t---Select your choice-----\n");

printf("\n\t1. INSERT\n\t2. DISPLAY\n\t3. SEARCH");

printf("\n\t4. DELETE\n\t5. UPDATE\n\t6. SORT");

printf("\n\t7. EXIT");

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

printf("\nEnter your choice:");

scanf("%d", &c);

printf("\n");

switch (c)

{

case 1:

insert();

break;

case 2:

emp = empty();

if (emp == 0)

printf("\nThe file is EMPTY\n");

else

```

```
disp();  
break;  
case 3:  
search();  
break;  
case 4:  
deletefile();  
break;  
case 5:  
update();  
break;  
case 6:  
emp = empty();  
if (emp == 0)  
printf("\n The file is EMPTY\n");  
else  
sort();  
break;  
case 7:  
exit(1);  
break;  
default:  
printf("\nYour choice is wrong\nPlease try again...\n");  
break;
```

```
}  
} while (c != 7);  
}
```