DBMS LAB ASSIGNMENT 1

Kandula Lohith AP20110010161 CSE C

1. Create a data file to store records of the students (fields: rollno, Name, branch,age). Sort the records of the file based on the rollno of the students.

A. Code:

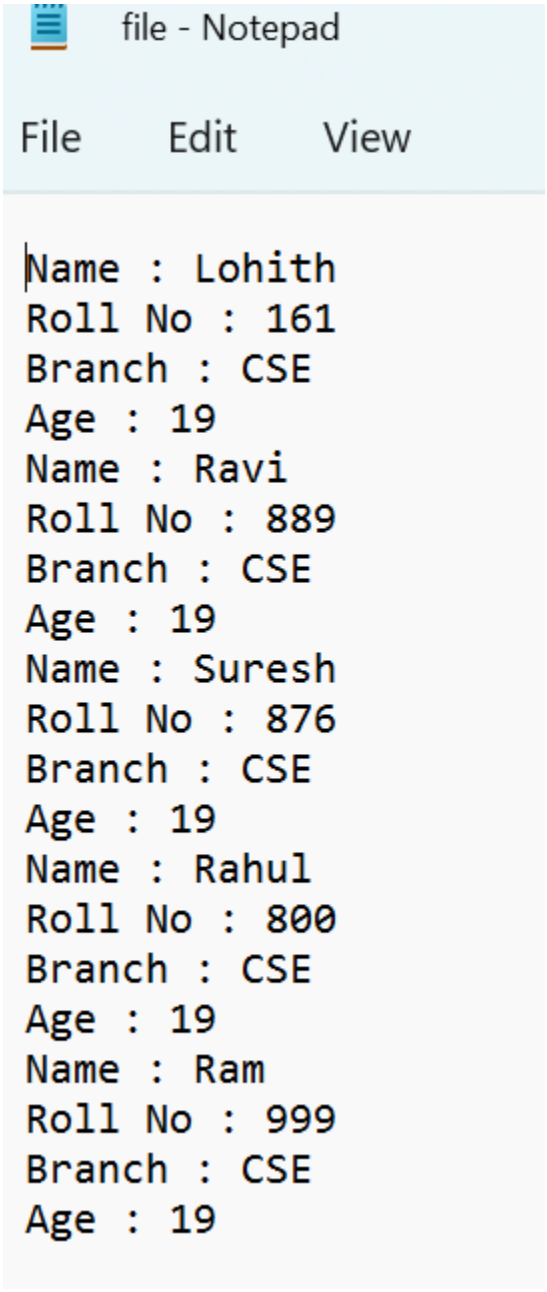
```
#include <stdio.h>
struct stu{
 int rollno;
 char name[100];
 char bra[100];
 int age;
}s[100];
int main()
{
 FILE *file;
 int n;
 printf("Enter number of Students : ");
 scanf("%d", &n);
 for(int i = 0; i < n; i++)
 {
 printf("----------------------\n");
 printf("Enter the Roll.no : ");
 scanf("%d", &s[i].rollno);
 printf("Enter the Name : ");
 scanf("%s", s[i].name);
 printf("Enter the Branch : ");
 scanf("%s", s[i].bra);
 printf("Enter the Age : ");
 scanf("%d", &s[i].age);
```

```
}
for(int i = 0; i < n-1; i++)
{
for(int j = 0; j < n-i-1; j++)
{
if(s[i].rollno > s[i+1].rollno)
{
struct stu swap = s[i];
s[i] = s[i+1];
s[i+1] = swap;
}
}
}
for(int i = 0; i < n; i++)
{
file = fopen("file.txt", "a");
fprintf(file, "Name : %s\n", s[i].name);
fprintf(file, "Roll No : %d\n", s[i].rollno);
fprintf(file, "Branch : %s\n", s[i].bra);
fprintf(file, "Age : %d\n", s[i].age);
fclose(file);
}
}
```

Input:

```
Enter number of Students : 5
----------------------
Enter the Roll.no : 161
Enter the Name : Lohith
Enter the Branch : CSE
Enter the Age : 19
----------------------
Enter the Roll.no : 889
Enter the Name : Ravi
Enter the Branch : CSE
Enter the Age : 19
----------------------
Enter the Roll.no : 999
Enter the Name : Ram
Enter the Branch : CSE
Enter the Age : 19
----------------------
Enter the Roll.no : 876
Enter the Name : Suresh
Enter the Branch : CSE
Enter the Age : 19
----------------------
Enter the Roll.no : 800
Enter the Name : Rahul
Enter the Branch : CSE
Enter the Age : 19

Process returned 0 (0x0)   execution time : 221.135 s
Press any key to continue.
```

Output:


file - Notepad
File Edit View
Name : Lohith
Roll No : 161
Branch : CSE
Age : 19
Name : Ravi
Roll No : 889
Branch : CSE
Age : 19
Name : Suresh
Roll No : 876
Branch : CSE
Age : 19
Name : Rahul
Roll No : 800
Branch : CSE
Age : 19
Name : Ram
Roll No : 999
Branch : CSE
Age : 19

Perform external sorting procedure (based on the roll number) on two data files which store records of the students and store the result in to the third data file.

Code:

```
#include<stdio.h>
#include<string.h>
struct student{
char s[25];
int roll;
char b[3];
int age;
};
int main()
{
char ch,k[25],word[50],stu[25],branch[3];
int i,j,r,a,n1,n2,c,tmp,m,p,o,t;
FILE *f1,*f2,*f;
f1=fopen("file1.txt","w+");
f2=fopen("file2.txt","w+");
printf("Enter the number of students for sample1: ");
scanf("%d",&n1);
printf("Enter the number of students for sample2: ");
scanf("%d",&n2);
struct student stude[n1+n2];
int ar[n1+n2];
printf("Enter the data for the file1.txt file:\n");
for(i=0;i<n1;i++){
printf("\nEnter the student name: ");
scanf("%s",stu);
strcpy(stude[i].s,stu);
fprintf(f1,"Name : %s\n",stu);
printf("Enter the Roll Number: ");
scanf("%d",&r);
stude[i].roll=r;
fprintf(f1,"Roll : %d\n",r);
printf("Enter the Branch name: ");
```

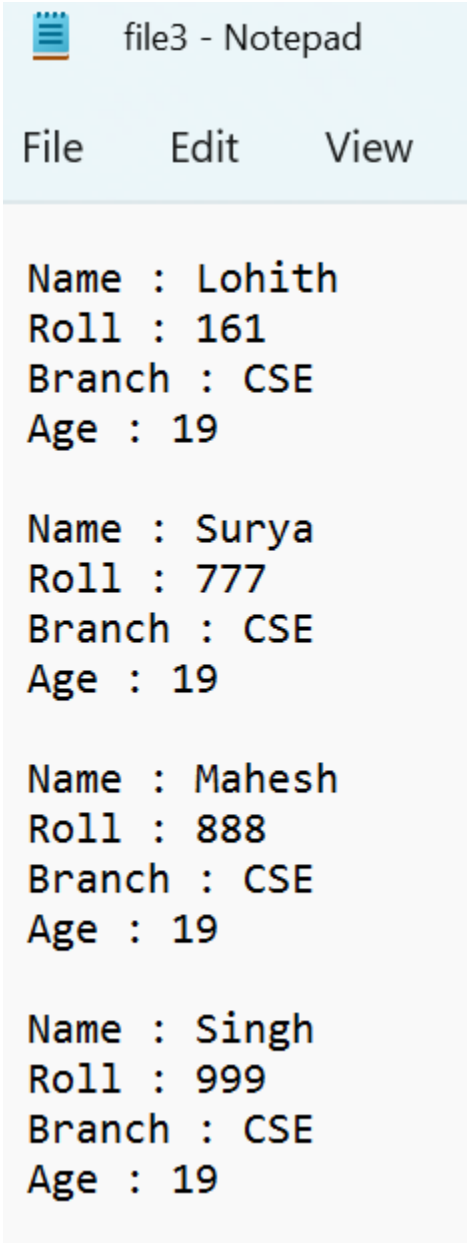
```
scanf("%s",branch);
strcpy(stude[i].b,branch);
fprintf(f1,"Branch : %s\n",branch);
printf("Enter the age: ");
scanf("%d",&a);
stude[i].age=a;
fprintf(f1,"Age : %d\n\n",a);
 }
 printf("Enter the data for the file2.txt file:\n");
for(i=0;i<n2;i++){
printf("\nEnter the student name: ");
scanf("%s",stu);
strcpy(stude[i+n1].s,stu);
fprintf(f2,"Name : %s\n",stu);
printf("Enter the Roll Number: ");
scanf("%d",&r);
stude[i+n1].roll=r;
fprintf(f2,"Roll : %d\n",r);
printf("Enter the Branch name: ");
scanf("%s",branch);
strcpy(stude[i+n1].b,branch);
fprintf(f2,"Branch : %s\n",branch);
printf("Enter the age: ");
scanf("%d",&a);
stude[i+n1].age=a;
fprintf(f2,"Age : %d\n\n",a);
 }
 for(i=0;i<n1+n2;i++)
ar[i]=stude[i].roll;
t=n1+n2;
for(i=0;i<t-1;i++){
for(j=0;j<t-i-1;j++){
if(ar[j]>ar[j+1]){
tmp=ar[j];
ar[j]=ar[j+1];
ar[j+1]=tmp;
}
}
}
```

```
for(i=0;i<t;i++){
printf("%d ",ar[i]);
}
fclose(f1);
fclose(f2);
f=fopen("file3.txt","w+");
m=0;
while(m<t){
p=ar[m];
for(i=0;i<t;i++){
if(stude[i].roll==p)
o=i;
}
fprintf(f,"Name : %s\n",stude[o].s);
fprintf(f,"Roll : %d\n",stude[o].roll);
fprintf(f,"Branch : %s\n",stude[o].b);
fprintf(f,"Age : %d\n\n",stude[o].age);
m++;
}
fclose(f);
}
```

Input:

```
Enter the number of students for sample1: 2
Enter the number of students for sample2: 2
Enter the data for the file1.txt file:

Enter the student name: Lohith
Enter the Roll Number: 161
Enter the Branch name: CSE
Enter the age: 19

Enter the student name: Singh
Enter the Roll Number: 999
Enter the Branch name: CSE
Enter the age: 19
Enter the data for the file2.txt file:

Enter the student name: Mahesh
Enter the Roll Number: 888
Enter the Branch name: CSE
Enter the age: 19

Enter the student name: Surya
Enter the Roll Number: 777
Enter the Branch name: CSE
Enter the age: 19
161 777 888 999
Process returned 0 (0x0)   execution time : 136.618 s
Press any key to continue.
```

Output:


file3 - Notepad
File
Edit
View
Name : Lohith
Roll : 161
Branch : CSE
Age : 19
Name : Surya
Roll : 777
Branch : CSE
Age : 19
Name : Mahesh
Roll : 888
Branch : CSE
Age : 19
Name : Singh
Roll : 999
Branch : CSE
Age : 19