LAB 5

```
#include <stdio.h>
#include<string.h>
struct Student {
   int roll_no;
   char name[50];
   float cgpa;
};

void addStudent(FILE *file) {
struct Student newStudent;

   printf("Enter student roll no: ");
scanf("%d", &newStudent.roll_no);
printf("Enter student name: ");
scanf(" %s", newStudent.name);
printf("Enter student cgpa: ");
scanf("%f", &newStudent.cgpa);
   fprintf(file,"%s %d
%f",newStudent.name,newStudent.roll_no,
n ewStudent.cgpa);

   printf("Student added successfully.\n");
}

void displayStudents(FILE *file) {
struct Student student;
    while (fread(&student, sizeof(struct
Student), 1, file) == 1) {
        printf("Roll No: %d, Name: %s, CGPA:
%.2f\n", student.roll_no, student.name,
student.cgpa);
    }

}
void modify(FILE *file){   struct
Student student;   printf("Enter
student roll no: ");
 int roll;
 scanf("%d",&roll);
 while(fread(&student,sizeof(struct
Student),1,file)!=EOF){    if
(student.roll_no==roll){
printf("Enter modified name: ");
scanf("%s", student.name);
printf("Enter modified roll no: ");
scanf("%d", &student.roll_no);
printf("Enter modified cgpa: ");
scanf("%f", &student.cgpa);
    fseek(file, -sizeof(struct Student),
SEEK_CUR);
    fwrite(&student, sizeof(struct Student),
1, file);
   }
 }
}
```

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void delete(FILE *file){
struct Student student;

   FILE *tempFile = fopen("temp.dat",
"w+");     fseek(file, 0, SEEK_SET);
printf("Enter student roll no: ");
   int roll;
   scanf("%d",&roll);
   while (fread(&student,
sizeof(struct Student), 1, file) == 1) {
if (student.roll_no != roll) {
         fwrite(&student, sizeof(struct
Student), 1, tempFile);
      }
   }

   fclose(file);
   fclose(tempFile);

   remove("student_database.txt");
   rename("temp.txt",
"student_database.txt");

}

int main(){
```

```
 //exercise1
FILE  *fptr;
 fptr=fopen("lab5.txt","w");
fprintf(fptr,"%s\n","hello world");
fclose(fptr);
fptr=fopen("lab5.txt","a");   if (fptr
== NULL) {
   printf("Error opening the file in append
mode.\n");
 }

 char str[50]="this is labwork6\n";
 fputs(str,fptr);
fclose(fptr);
 fptr=fopen("lab5.txt","r");
char data[50];
while(fgets(data,50,fptr)!=NULL){
printf("%s",data);
 }

 fclose(fptr);   //exercise2
fptr=fopen( "lab5.txt", "r" );
char word;   int count=0;
while((word=fgetc(fptr))!=EOF){
if (word=='\n' || word == ' '){
count +=1;
   }
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 }
 printf("%d",count);
 fclose(fptr);

 //exercise3   FILE
*file;    int choice;

      do {

         printf("\nStudent Database
System\n");
         printf("1. Add Student\n");
printf("2. Display Students\n");
printf("3. Modify Student\n");
printf("4.Delete Student\n");
printf("5. Exit\n");          printf("Enter your
choice: ");          scanf("%d", &choice);

         switch (choice) {
            case 1:
               file =
fopen("student_database.txt", "a");
               addStudent(file);
               break;
case 2:
               file =
fopen("student_database.txt", "r");
               displayStudents(file);
               break;
case 3:

file=fopen("student_database.txt","r+");
              modify(file);
case 4:

file=fopen("student_database.txt","r+");
             case 5:
               printf("Exiting the program.\n");
               break;
default:
               printf("Invalid choice. Please try
again.\n");
          }

      } while (choice != 5);

      fclose(file);


  return 0;
 }
```