LAB 5

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#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,newStudent.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){
```

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  if (word=='\n' || word == ' '){
    count +=1;
  }
 }
 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;
 }
```