#include <stdio.h>

#include <stdlib.h>

#include <conio.h>

#include <windows.h>

#include <string.h>

COORD coord = {0,0}; /// top-left corner of window

void gotoxy(int x,int y)

{

    coord.X = x;

    coord.Y = y;

  SetConsoleCursorPosition(GetStdHandle(STD\_OUTPUT\_HANDLE),coord);

}

/\*\* Main function started \*/

int main()

{

    FILE \*fp, \*ft; /// file pointers

    char another, choice;

    /\*\* structure that represent a employee \*/

    struct emp

      char name[40];

        int age;

    float bs;

    };

    struct emp e; /// structure variable creation

    char empname[40];

    long int recsize; /// size of each record of employee

    fp = fopen("EMP.DAT","rb+");

    if(fp == NULL)

    {

        fp = fopen("EMP.DAT","wb+");

        if(fp == NULL)

        {

            printf("Connot open file");

          exit(1);

        }

    }

    recsize = sizeof(e);

    while(1)

    {

        system("cls");///clear the console window

        gotoxy(30,10); /// move the cursor to postion 30, 10 from top-left corner

        printf("1. ADD RECORD");

        gotoxy(30,12);

        printf("2. LIST RECORDS");

        gotoxy(30,14);

     printf("3. MODIFY REORDS");

        gotoxy(30,16);

        printf("4. DELETE RECORDS");

        gotoxy(30,18);

        printf("5. Exit");

        gotoxy(30,20);

        printf("YOUR CHOICE: ");

        fflush(stdin); /// flush the input buffer

        choice  = getche(); /// get the input from keyboard

        switch(choice)

        {

        case '1':

            system("cls");

            fseek(fp,0,SEEK\_END); /// search the file and move cursor to end of the file

       /// here 0 indicates moving 0 distance from the end of the file

            another = 'y';

            while(another == 'y')

            {

                printf("\nENTER NAME OF THE EMPLOYEE:\t ");

                scanf("%s",e.name);

                printf("\nENTER AGE OF THE EMPLOYEE: \t");

                scanf("%d", &e.age);

                printf("\nENTER SALARY OF THE EMPLOYEE:\t ");

                scanf("%f", &e.bs);

                fwrite(&e,recsize,1,fp); /// write the record in the file

                printf("\nADD ANOTHER RECORD\t(y/n) ");

                fflush(stdin);

                another = getche();

            }

            break;

        case '2':

            system("cls");

            printf("\nEMPLOYEE NAME\t\tAGE\t\t\t SALARY");

            rewind(fp); ///this moves file cursor to start of the file

            while(fread(&e,recsize,1,fp)==1)  /// read the file and fetch the record one record per fetch

            {

                printf("\n\n%s\t\t\t %d\t\t\t %.2f", e.name,e.age,e.bs);

            }

            getch();

            break;

    case '3':

             system("cls");

            another = 'y';

            while(another == 'y')

            {

                printf("ENTER NAME OF EMPLOYEE TO MODIFY:\t ");

                scanf("%s", empname);

                rewind(fp);

                while(fread(&e,recsize,1,fp)==1)  /// fetch all record from file

                {

                    if(strcmp(e.name,empname) == 0)  ///if entered name matches with that in file

                    {

 printf("\nENTER NEW NAME,AGE AND SALARY OF THE EMPLOYEE: ");

      scanf("%s%d%f",e.name,&e.age,&e.bs);

                        fseek(fp,-recsize,SEEK\_CUR); /// move the cursor 1 step back from current position

                        fwrite(&e,recsize,1,fp); /// override the record

                        break;

                    }

                }

                printf("\nMODIFY ANOTHER RECORD(y/n)");

                fflush(stdin);

                another = getche();

            }

            break;

        case '4':

            system("cls");

       another = 'y';

   while(another == 'y')

            {

                printf("\nENTER NAME OF THE EMPLOYEE TO DELETE: \t");

                scanf("%s",empname);

                ft = fopen("Temp.dat","wb");  /// create a intermediate file for temporary storage

                rewind(fp); /// move record to starting of file

                while(fread(&e,recsize,1,fp) == 1)  /// read all records from file

                {

                    if(strcmp(e.name,empname) != 0)  /// if the entered record match

                    {

  fwrite(&e,recsize,1,ft); /// move all records except the one that is to be deleted to temp file

                    }

            }

                fclose(fp);

                fclose(ft);

                remove("EMP.DAT"); /// remove the orginal file

                rename("Temp.dat","EMP.DAT"); /// rename the temp file to original file name

                fp = fopen("EMP.DAT", "rb+");

                printf("DELETE ANOTHER RECORD(y/n)");

                fflush(stdin);

                another = getche();

            }

            break;

    case '5':

            fclose(fp);  /// close the file

            exit(0);

        }

    }

    return 0;

}