File handling past paper Questions

2018 ☑

2019 ☑

2022- session 1 ☑

Session 2 ☑

2023 – session 1 ☑

Session 2 ☑

Extra model paper question ☐

2018

Question 4 **20 Marks**

A company uses a text file to maintain their employee attendance. For each employee the following details will be added to the file.

Employee Number (string)
Name (string)
Attendance status (boolean) – 0 for absent and 1 for present

a) Write a C program to input the attendance of **two employees for 7 days** from keyboard and save them in a file called "attendance.dat"

```
111   Perera 1011011
112   Silva  1011000
```

Save your program as 1AJune4a.c

b) Write a C program to input an employee number from the keyboard and display the total number of days that employee reported to work according to "attendance.dat" file.

Save your program as 1AJune4b.c

```c
#include <stdio.h>

int main(){

    FILE * filePointer;

    char name[20];
    int employeeNum, attendence, i;

    filePointer = fopen("attendence.dat", "w+");

    for(i=1; i<=2; i++){
        printf("Employee number: ");
        scanf("%d", &employeeNum);

        printf("Name: ");
        scanf("%s", name);

        printf("Attendence state for 7 days(0-absent, 1-present): ");
        scanf("%d", &attendence);

        fprintf(filePointer, "%d\t%s\t%d\n", employeeNum, name, attendence);


        printf("\n");


        }


    fclose(filePointer);

    return 0;
}
```

2019

Question 4 **(20 marks)**

A text file can be used to record the details of loyalty customers. Follow the following steps to create a file called "loyalty.dat"

a) Create a file called "loyalty.dat" using the vi editor with the following data.

7728369210 Dinesh 7773457219 Subash

b) Write a C program to
   i) Input the name and the loyalty number from the keyboard.
   ii) Read the file and check whether the loyalty number already exists.
   iii) If the new number does not exist, append the loyalty number and the name to the file.
   iv) Add details of five people and store those in the file if needed.

Save your program as 1AQ4.c

```c
#include <stdio.h>
int main(){

    int i=1;
    int loyaltyNumber, loNo, flag;
    char name[20];
    char newName[20];

    while (i<6){
        FILE * filePointer;

        filePointer = fopen("loyalty.dat", "a+");

        if(filePointer == NULL){
            printf("The file does not exist\n");
            return -1;
        }


        printf("Input name: ");
        scanf("%s", name);

        printf("Input loyalty number: ");
        scanf("%d", &loyaltyNumber);

        while(fscanf(filePointer, "%d%s", &loNo, newName) == 2){
            if(loyaltyNumber == loNo){
                flag = 1;
                printf("The loyalty number already exists.\n");
                break;
            }
            else {
                flag = 0;
            }
        }

        if(flag == 0){
            fprintf(filePointer, "\n%d %s",loyaltyNumber, name );
            printf("The loyalty number is added\n");
        }

        printf("\n");
        i++;

        fclose(filePointer);
    }
    return 0;
}
```

2022 – session1

Question 4 [20 Marks]

You are supposed to write a C program to automate the marking of student answers of a given class test. This test has 4 Multiple Choice Questions (MCQs). Your program should prompt the user to enter the student ID (ITXXXXXX) and answers of 4 questions (a number between 1 to 5) for five students and save in a text file called "answers.dat".

IT220102	1 4 2 5
IT221029	2 3 1 4
IT229010	1 3 2 4
IT228012	2 5 1 3
IT221229	1 4 2 3

If the correct answers are 1, 4, 2 and 3, display the student ID and number of correct answers for each student stored in the *answers.dat*

Save your program as Q4.c

----------*End of Paper*----------

```c
#include <stdio.h>

int main(){

    int i, j;
    int ID;
    int answers[4];
    int cAnswer[4]={1,4,2,3};
    int count = 0;

    FILE * filePtr;

    filePtr = fopen("answers.dat", "a");

    if(filePtr == NULL){
        printf("The file does not exist\n");
        return -1;
    }

    for(i=0; i<5; i++){
        printf("Input student ID: ");
        scanf("%d", &ID);

        for (j = 0; j < 4; j++) {
            printf("Input answer of question %d (1, 2, 3, 4, 5): ", j + 1);
            scanf("%d", &answers[j]);
        }

        fprintf(filePtr, "%d\t%d %d %d %d\n", ID, answers[0], answers[1], answers[2], answers[3]);

        for(j=0; j<4; j++){
            if(cAnswer[j] == answers[j] ){
                count ++;
            }
        }

        printf("The number of correct answers : %d\n", count);

        printf("\n");

        count = 0;
    }

    fclose(filePtr);

    return 0;
}
```

2022 – session2

Question 4 [20 marks]

Write a C program to input the name and telephone numbers for 5 people and save the data in a file called "Directory.dat"

Sample output

```
Kishi      772912891
Rasika     768123406
Shini      774129656
Lalani     779834251
Taniya     776921643
```

In the same program, read a name from the user and display the phone number relevant to the name. If the name does not exists, display an error message. Assume that no duplicate names are in the directory.

Save your program as Q4.c

```c
#include <stdio.h>
#include <string.h>

int main(){

    FILE * filePtr;

    int i, found, telPhone;
    char name[20];
    char sName[20];

    filePtr = fopen("Directory.dat", "a");

    for(i=0; i<5; i++){
        printf("Input name: ");
        scanf("%s", name);

        printf("Input telephone number: ");
        scanf("%d", &telPhone);

        fprintf(filePtr, "%s\t%d\n", name, telPhone);

    }

    fclose(filePtr);

    filePtr = fopen("Directory.dat", "r");

    printf("\n");

    printf("Search name: ");
    scanf("%s", sName);

    while (fscanf(filePtr, "%s %d", name, &telPhone) == 2) {
        if (strcmp(sName, name) == 0) { // Compare using strcmp
            printf("Telephone number: %d\n", telPhone);
            found = 1;
            break; // Exit the loop once a match is found
        }
    }

    if (!found) {
        printf("No name found!\n");
    }

    fclose(filePtr);

    return 0;
}
```

2023 – session1

Question 4 **20 Marks**

A pizza shop makes three different types of pizzas (veggie, chicken, seafood) of two sizes (regular, large). The shop maintains a data file to record their sales details (transaction ID, type of pizza, size, and number of pizzas).

Write a C program to input the type of pizza (V/C/S), size (R/L) and number of pizzas from the keyboard and write to a data file called "outletOrders.dat". The transaction ID should be generated by the system starting from 100. The program should allow the user to enter details of any number of orders, until user enters -99.

Sample output

100	V	R	2
101	C	L	3
102	V	L	1
103	S	R	4
104	V	R	1
105	C	L	2

At the end of the day, generate a summary as follows using the data stored in the "outletOrders.dat".

Veggie Pizza
- Regular - 3
- Large - 1

Chicken Pizza
- Regular - 0
- Large - 5

Seafood Pizza
- Regular - 4
- Large - 0

Save your program as fileB.c

```c
#include <stdio.h>

int main(){

    FILE * filePtr;

    int order, number = 0;
    int transactionID = 100;
    char typeOfPizza, size;
    int count1 = 0, count2 = 0, count3 = 0, count4 = 0, count5 = 0, count6 = 0;

    filePtr = fopen("outletOrders.dat", "a");

    while(1){

        printf("Input order number(enter -99 to end): ");
        scanf("%d", &order);

        if(order == -99){
            break;
        }

        printf("Enter type of pizza(V-Veggie/C-Chicken/S-Seafood): ");
        scanf(" %c", &typeOfPizza);

        printf("Enter size(R-Regular/L-Large): ");
        scanf(" %c", &size);

        printf("Enter no.of pizzas: ");
        scanf("%d", &number);

        fprintf(filePtr, "%d\t%c\t%c\t%d\n", transactionID, typeOfPizza, size, number);


        transactionID = transactionID + 1;

        printf("\n");
    }

    fclose(filePtr);

    filePtr = fopen("outletOrders.dat", "r");

    while(fscanf(filePtr, "%d %c %c %d" , &transactionID, &typeOfPizza, &size, &number) == 4){
        if(typeOfPizza == 'V' && size == 'R'){
            count1 += number;
        }
        else if(typeOfPizza == 'V' && size == 'L' ){
            count2 += number;
        }
        else if(typeOfPizza == 'C' && size == 'R' ){
            count3 += number;
        }
        else if(typeOfPizza == 'C' && size == 'L' ){
            count4 += number;
        }
        else if(typeOfPizza == 'S' && size == 'R' ){
            count5 += number;
        }
        else if(typeOfPizza == 'S' && size == 'L' ){
            count6 += number;
        }
    }

    fclose(filePtr);

    printf("Veggie Pizza\n");
    printf("\tRegular - %d\n", count1);
    printf("\tLarge - %d\n", count2);

    printf("Chicken Pizza\n");
    printf("\tRegular - %d\n", count3);
    printf("\tLarge - %d\n", count4);

    printf("Seafood Pizza\n");
    printf("\tRegular - %d\n", count5);
    printf("\tLarge - %d\n", count6);

    return 0;
}
```

2023 - session2

Question 4 **20 Marks**

A "FilmTime" cinema is using a data file called "purchases.dat" to store the details of the movie tickets they sell. Currently, they show 3 movies Harry Portor (H), Frozon – II (F) and Sherlock Homes (S).

Write a C program to input the movie (H/F/S) , ticket type (balcony (B) or normal (N)) and number of tickets of each purchase from the keyboard and write to a data file called "purchases.dat"

The program should allow the user to enter details of 5 purchases.

Sample output

H	B	4
F	B	2
H	N	6
S	N	1
F	B	2

Also generate a summary report as follows using the data stored in the "purchase.dat".

Harry Portor
- Balcony - 4
- Normal - 6

Frozon-II
- Balcony - 4
- Normal - 0

Sherlock Homes
- Balcony - 0
- Normal - 1

Save your program as **fileD.c**

```c
#include <stdio.h>

int main(){

    FILE * filePtr;

    int i = 1, number;
    int count1 = 0, count2 = 0, count3 = 0, count4 = 0, count5 = 0, count6 = 0;
    char movieType, ticketType;

    filePtr = fopen("purchase.dat", "w+");

    while(i <= 5){

        printf("Input the movie(H/F/S): ");
        scanf(" %c", &movieType);

        printf("Input ticket type(B/N): ");
        scanf(" %c", &ticketType);

        printf("Input the number of tickets: ");
        scanf("%d",&number);

        fprintf(filePtr, "%c\t%c\t%d\n", movieType, ticketType, number);

        printf("\n");

        i++;
    }
    fclose(filePtr);

    filePtr = fopen("purchase.dat", "r");

    while(fscanf(filePtr, "%c\t%c\t%d\n", &movieType, &ticketType, &number) == 3){

        if(movieType == 'H' && ticketType == 'B'){
            count1 += number;
        }
        else if(movieType == 'H' && ticketType == 'N'){
            count2 += number;
        }
        else if(movieType == 'F' && ticketType == 'B'){
            count3 += number;
        }
        else if(movieType == 'F' && ticketType == 'N'){
            count4 += number;
        }
        else if(movieType == 'S' && ticketType == 'B'){
            count5 += number;
        }
        else if(movieType == 'S' && ticketType == 'N'){
            count6 += number;
        }

    }
    fclose(filePtr);

     printf("Harry point\n");
     printf("\tBalcony - %d\n", count1);
     printf("\tNormal - %d\n", count2);

     printf("Frozen-II\n");
     printf("\tBalcony - %d\n", count3);
     printf("\tNormal - %d\n", count4);

     printf("Sherlock Homes\n");
     printf("\tBalcony - %d\n", count5);
     printf("\tNormal - %d\n", count6);

     return 0;
}
```

Extra question model paper

Question 3

Write a C program to store the details of phone bills.

a) In your program, enter the phone number, local call charges, international call charges and roaming charges in to chargers.dat.

Sample input

Phone no	local call charges	international call charges	roaming charges
0772123789	230.00	0.00	0.00
0777890345	1025.00	546.00	3278.00
0714289378	2345.00	135.00	0.00
0723481230	548.00	10.00	0.00
0776239487	2564.00	439.00	349.00

b) Write a program to read the details from the charges.dat and print the total call charges for each phone number. Print the phone number and total due amount for each phone number.