

Software Development Fundamentals-I

Railway Reservation System using C



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DECEMBER, 2020

INTRODUCTION:

India is the 7th largest country in terms of geographical size. This means there is a need for efficient means for long distance transportation. The long distance road network is very poorly developed in most parts of India. Bulk of long distance traffic is carried by the Indian Railway as a result Indian railways. Therefore, forms a backbone of public transport in India. The efficiency of the railway will increase result of computerization due to dramatic reduction in communication time among geographically dispersed offices. For the reservation of the ticket a person goes to ticket counter of the railway reservation office and expend its valuable time in standing queue. Now to save that time we have a facility of Online Reservation now just by click on computer.

This project will give us the information about railway reservation.

This system is basically concerned with the reservation and cancellation of railway tickets to the passengers. To be more specific, our system is limited in such a way that a train starting from a particular source will have a single destination

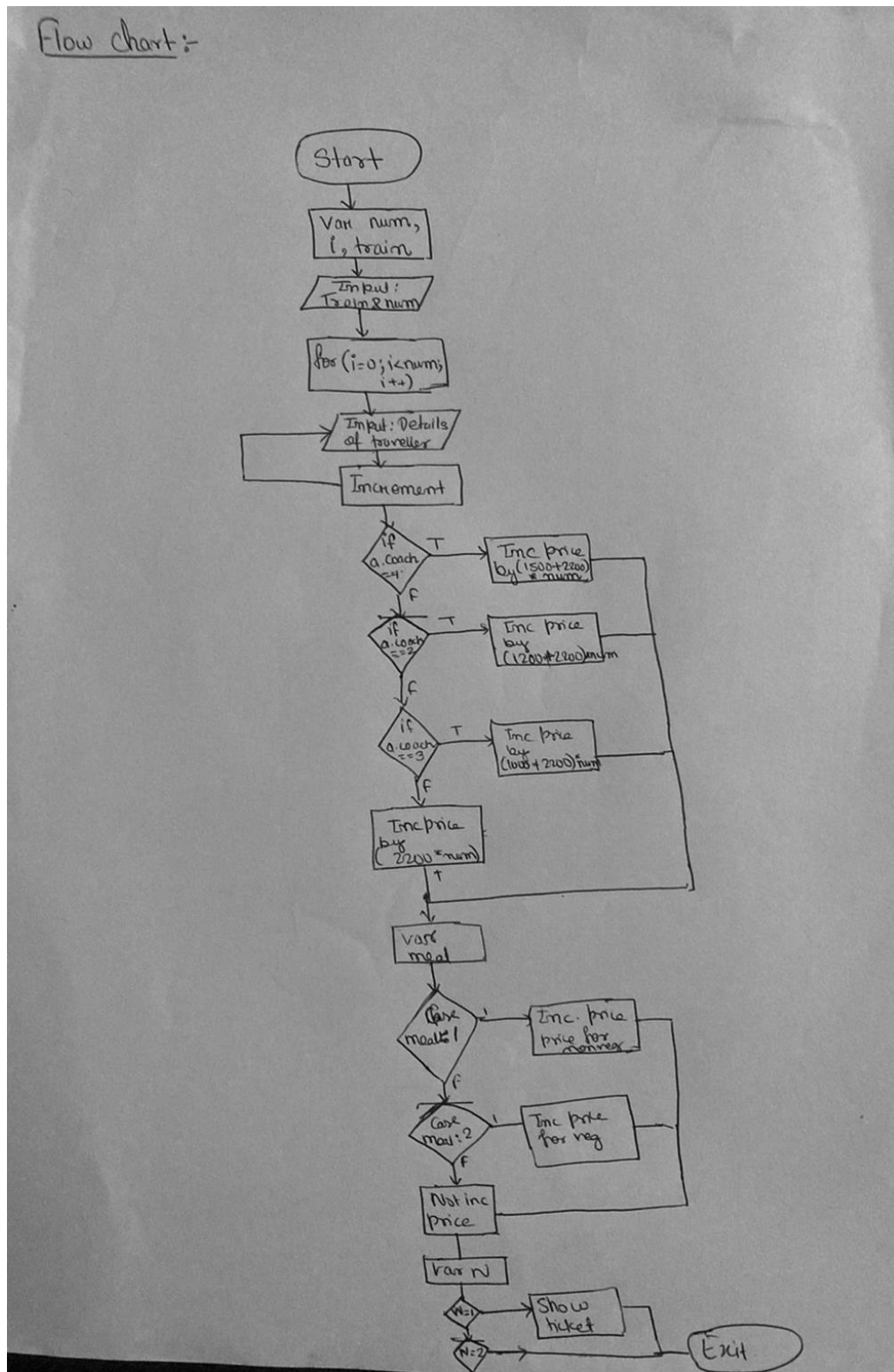
PROBLEM STATEMENT

- Railway reservation system reserves and cancel seats for the passenger.
- It contains information about the trains.
- It helps in adding meals, blankets & pillows.
- It helps in booking tickets easily, simple and error free.
- It saves time for ticket
- It shows information and description of booked tickets.
- It contain details about the seats such first ac, second ac, 3rd ac and non ac.

OBJECTIVE

The objective of this project is to provide tickets to public in the comforts to their home or residence and to save them from hassles to visit 'Railway Reservation Centres'. By doing this, we are not only saving time of public but also saving their cost of traveling or parking to these centres. Also help people in booking ac or non ac seat and adding meals, blankets & pillows. It provides all details of the ticket booked.

FLOWCHART



IMPLEMENTATION

```
#include <stdio.h>
#include <stdlib.h>
struct details
{
    char name[20];
    int age;
    char gender;
};

struct price
{
    int food;
    int blanket;
    int coach;
};

void view_ticket(int num, struct details ticket[10], int meal, int train);
int main()
{
    int num, i;
    struct details ticket[20];
    int train;
    printf("TRAIN NO  SN0.  TRAIN NAME    FROM        TO          PRICE\n");
    printf("_____\n");
    printf("22123   1   MUMBAI EXP    MUM(3:00)    DEL(23:59)    2200\n");
    printf("28964   2   BARELI EXP    BAR(8:00)    BUJH(22:59)    1500\n");
    printf("26934   3   AHMDEBAD EXP  AHM(22:53)   BAR(9:00)     3000\n");
    printf("20999   4   RAJDHANI EXP  MUM(18:50)   GOA(11:00)    1800\n");
    printf("23339   5   JAIPUR EXP    JAI(13:00)   KAN(5:00)     2400\n");
    printf("Choose your desired train from the list(input Sno.)\n");
    scanf("%d", &train);
    printf("Enter the number of people: ");
    scanf("%d", &num);
    for (i=0; i<num; i++)
    {
        printf("Enter details of passenger %d -(in form of name age gender) : ", i+1);
        scanf("%s %d %c",&ticket[i].name,&ticket[i].age,&ticket[i].gender);
    }
    struct price a;
    int x, tp;
    if(train==1)
    {
        printf("Extra price for AC as follows =\n 1-First class AC = 1500 \n 2-Second class AC=1200\n 3-Third class Ac = 1000\n 4-Non AC->(No extra charges) \n Enter your choice in form of 1,2,3 or 4\n ");
        scanf("%d", &a.coach);
        if(a.coach==1)
```

```

    {
        x=(1500 +2200)*num;
        printf("Total price is equal to=%d\n",x);
    }
else if(a.coach==2)
{
    x=(1200+2200)*num;
    printf("Total price is equal to=%d\n",x);
}
else if(a.coach==3)
{
    x=(1000+2200)*num;
    printf("Total price is equal to=%d\n",x);
}
else if(a.coach==4)
{
    x=2200*num;
}
}
if(train==2)
{
    printf("Extra price for AC as follows =\n 1-First class AC=1500 \n 2-Second class AC = 1200\n 3-
Third class AC = 1000\n 4-Non AC->(No extra charges)\n Enter your choice in form of 1,2,3 or 4\n ");
    ("%d",&a.coach);
    if(a.coach==1)
    {
        x=(1500 +1500)*num;
        printf("Total price is equal to=%d\n",x);
    }
else if(a.coach==2)
{
    x=(1200+1500)*num;
    printf("Total price is equal to=%d\n",x);
}
else if(a.coach==3)
{
    x=(1000+1500)*num;
    printf("Total price is equal to=%d\n",x);
}
else if(a.coach==4)
{
    x=1500*num;
}
}
if(train==3)
{
    printf("Extra price for AC as follows =\n 1-First class AC=1500 \n 2-Second class AC = 1200\n 3-
Third class AC = 1000\n 4-Non AC->(No extra charges)\n Enter your choice in form of 1,2,3 or 4\n ");
    scanf("%d", &a.coach);
    if(a.coach==1)
    {
        x=(1500 +3000)*num;
        printf("Total price is equal to=%d\n",x);
    }
else if(a.coach==2)

```

```

    {
        x=(1200+3000)*num;
        printf("Total price is equal to=%d\n",x);
    }
else if(a.coach==3)
{
    x=(1000+3000)*num;
    printf("Total price is equal to=%d\n",x);
}
else if(a.coach==4)
{
    x=3000*num;
}
}
if(train==4)
{
    printf("Extra price for AC as follows =\n 1-First class ac=1500 \n 2-Second class AC = 1200\n 3-Third
class AC = 1000\n 4-Non AC->(No extra charges)\n Enter your choice in form of 1,2,3 or 4\n ");
    scanf("%d",&a.coach);
    if(a.coach==1)
    {
        x=(1500 +1800)*num;
        printf("Total price is equal to=%d\n",x);
    }
else if(a.coach==2)
{
    x=(1200+1800)*num;
    printf("Total price is equal to=%d\n",x);
}
else if(a.coach==3)
{
    x=(1000+1800)*num;
    printf("Total price is equal to=%d\n",x);
}
else if(a.coach==4)
{
    x=1800*num;
}
}
if(train==5)
{
    printf("Extra price for AC as follows =\n 1-First class AC = 1500 \n 2-Second class AC = 1200\n 3-
Third class AC = 1000\n 4-Non AC->(No extra charges)\n Enter your choice in form of 1,2,3 or 4\n ");
    scanf("%d",&a.coach);
    if(a.coach==1)
    {
        x=(1500 +2400)*num;
        printf("Total price is equal to=%d\n",x);
    }
else if(a.coach==2)
{
    x=(1200+2400)*num;
    printf("Total price is equal to=%d\n",x);
}
else if(a.coach==3)

```

```

        {
            x=(1000+2400)*num;
            printf("Total price is equal to=%d\n",x);
        }
        else if(a.coach==4)
        {
            x=2400*num;
        }
    }
    printf("Enter the number of blankets with pillows required(each set landed will cost 300 rupees)\n");
    scanf("%d",&a.blanket);
    printf("Enter the number of food servings required (each serving costs 120 rupees)\n");
    scanf("%d",&a.food);
    int meal;
    printf("Choose meal 1 for Non-Veg and 2-Veg\n");
    scanf("%d",&meal);
    switch (meal)
    {
        case 1:
            printf("NON VEG. ONE meal costs rs 150\n");
            tp= x + 150*a.food+ 300*a.blanket;
            printf("The total cost is equal to =%d\n",tp);
            break;
        case 2:
            printf("VEG. ONE meal costs rs 120\n");
            tp= x + 120*a.food+ 300*a.blanket;
            printf("The total cost is equal to =%d\n",tp);
            break;
        default:
            tp = x;
            printf("The total cost is equal to = %d", tp);
    }
    view_ticket(num, ticket, meal, train);
    return 0;
}

void view_ticket(int n, struct details ticket[10], int meal, int train)
{
    int w,i;
    printf("Press 1 to view ticket.\nPress 0 to exit.");
    scanf("%d", &w);
    switch(w)
    {
        case 1:
            for(i=0;i<n;i++)
            {
                printf("Passenger %d Details :- \n\n", i+1);
                printf("Passenger Name: %s\n\n",ticket[i].name);
                printf("Passenger Age: %d\n\n",ticket[i].age);
                printf("Passenger Gender: %c\n\n",ticket[i].gender);
            }
            switch(train)
            {
                case 1:
                    printf("22123    1    MUMBAI EXP    MUM(3:00)    DEL(23:59)    2200\n");
                    break;
            }
        }
    }
}

```


```

        case 2:
            printf("28964  2  BARELI EXP    BAR(8:00)    BUJH(22:59)    1500\n");
            break;
        case 3:
            printf("26934  3  AHMDEBAD EXP  AHM(22:53)    BAR(9:00)      3000\n");
            break;
        case 4:
            printf("20999  4  RAJDHANI EXP  MUM(18:50)    GOA(11:00)     1800\n");
            break;
        case 5:
            printf("23339  5  JAIPUR EXP    JAI(13:00)    KAN(5:00)      2400\n\n");
            break;
    }
    if(meal==1) {
        printf("\nTicket price includes non-veg meal.");
    }
    else if (meal==2) {
        printf("\nTicket price includes veg meal.");
    }
    break;
case 2:
    exit(0);
}
}

```

OUTPUT

Choosing Desired Train:

 "D:\Siddhant\Test code\sif\bin\Debug\sif.exe"

TRAIN NO	SNØ.	TRAIN NAME	FROM	TO	PRICE
22123	1	MUMBAI EXP	MUM(3:00)	DEL(23:59)	2200
28964	2	BARELI EXP	BAR(8:00)	BUJH(22:59)	1500
26934	3	AHMDEBAD EXP	AHM(22:53)	BAR(9:00)	3000
20999	4	RAJDHANI EXP	MUM(18:50)	GOA(11:00)	1800
23339	5	JAIPUR EXP	JAI(13:00)	KAN(5:00)	2400

Choose your desired train from the list(input Sno.)

2

Enter details of passenger:


```

Enter the number of people: 3
Enter details of passenger 1 -(in form of name age gender) : siddhant
20
m
Enter details of passenger 2 -(in form of name age gender) : harsh
18
m
Enter details of passenger 3 -(in form of name age gender) : kumud
21
f

```

Choose tier:

```

Extra price for AC as follows =
1-First class AC=1500
2-Second class AC = 1200
3-Third class AC = 1000
4-Non AC->(No extra charges)
Enter your choice in form of 1,2,3 or 4
Total price is equal to=8100

```

Choosing Blankets And Meal:

```

Total price is equal to=8100
Enter the number of blankets with pillows required(each set landed will cost 300 rupees)
1
Enter the number of food servings required (each serving costs 120 rupees)
2
Choose meal 1 for Non-Veg and 2-Veg
1
NON VEG. ONE meal costs rs 150
The total cost is equal to =8700

```

View Ticket:

```
Press 1 to view ticket.  
Press 0 to exit.1  
Passenger 1 Details :-  
  
Passenger Name: siddhant  
  
Passenger Age: 20  
  
Passenger Gender: m  
  
Passenger 2 Details :-  
  
Passenger Name: harsh  
  
Passenger Age: 18
```

```
Passenger Gender: m  
Passenger 3 Details :-  
Passenger Name: kumud  
Passenger Age: 21  
Passenger Gender: f  
  
28964      2      BARELI EXP      BAR(8:00)      BUJH(22:59)      1500  
  
Ticket price includes non-veg meal.  
Process returned 0 (0x0)   execution time : 65.332 s  
Press any key to continue.
```

CONCLUSION

Practical learning is a very important part of the curriculum as it strengthens the concept and enhances knowledge about the practical implementation of all theory concepts we have learnt in the SDF.

I have tried to use all the concepts which have been taught in SDF like array, structure, function, if else and switch case. The project that we made books ticket easily and without any error. Flowchart helps to understand the project very simply. Finally, the system is implemented and tested according to test cases.

