K LHYDERABAD

FRESHMAN ENGINEERING DEPARTMENT

A Project Based Lab Report

On

ONLINE RAILWAY TICKET BOOKING

SUBMITTED BY:

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UNDER THE ESTEEMED GUIDANCE OF

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KONERU LAKSHMAIAH EDUCATION FOUNDATION

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CERTIFICATE

This is to certify that the project based laboratory report entitled "Online Railway Ticket Booking" submitted by Ms. A.Monika(2010030057), Mr. Shaik Amaan Hussain(2010030093) and Ms. K. Dhana Sree (2010030444) to the **Department of Basic Engineering Sciences, KL University** in partial fulfillment of the requirements for the completion of a project in "Data Structures-21SC1202"course in I B Tech II Semester, is a bonafide record of the work carried out by him/her under my supervision during the academic year 2021-22.

PROJECT SUPERVISOR

Mr **. Ramasubramanian Krishnamurthy**

HEAD OF THE DEPARTMENT

Dr. G. REKHA

ACKNOWLEDGEMENTS

It is great pleasure for me to express my gratitude to our honorable President **Sri. Koneru Satyanarayana**, for giving the opportunity and platform with facilities in accomplishing the project-based laboratory report.

I express my sincere gratitude to our Principal **Dr.L. Koteswara Rao** for his administration towards our academic growth.

I express sincere gratitude to our Coordinator **Dr. G. Rekha** for her leadership and constant motivation provided in successful completion of our academic semester. I record it as my privilege to deeply thank for providing us the efficient faculty and facilities to make our ideas into reality.

I express my sincere thanks to our project supervisor **Mr. Ramasubramanian Krishnamurthy** for his novel association of ideas, encouragement, appreciation and intellectual zeal which motivated us to venture this project successfully.

Finally, it is pleased to acknowledge the indebtedness to all those who devoted themselves directly or indirectly to make this project report success.

ABSTRACT

This project is about Online Railway Ticket Booking.

For journey of longer distances though we have airways most of the people use the railways, which is most convenient, affordable means of transport in India. So keeping this in view, the reservation of railways is a most important task and it must be faster and efficient as the demand (travellers) is very high. In order to meet this demand, manual reservation is completely ruled out and it requires an efficient program to implement the online reservation. This program enables us to choose the train even there is no necessary to fill a form at the railway reservation counter, i.e. we can directly select from the choices provided for us with train numbers and their origin, departure time, destination & arrival time at that station and the class to travel in. If there is any concession, we can also avail it and then program gives us the final output as train ticket with the amount to be paid. It is completely developed in C language without using graphics.

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INTRODUCTION

The main aim of this project is to create an easy online railway ticket booking system using C Language.

For journey of longer distances though we have airways most of the people use the railways, which is most convenient, affordable means of transport in India. So keeping this in view, the reservation of railways is a most important task and it must be faster and efficient as the demand (travelers) is very high. In order to meet this demand, manual reservation is completely ruled out and it requires an efficient program to implement the online reservation. This program enables us to choose the train even there is no necessary to fill a form at the railway reservation counter, i.e. we can directly select from the choices provided for us with train numbers and their origin, departure time, destination & arrival time at that station and the class to travel in. If there is any concession, we can also avail it and then program gives us the final output as train ticket with the amount to be paid.

Structures is a data type that groups related data using data containers called fields. Each field can contain any type of data. Access data in a field using dot notation of the form structName.fieldName.

Arrays can only store a single data type, structures can hold multiple types of data and a structure array acts as an array with different elements.

String functions are used in computer programming languages to manipulate a string or query information about a string (some do both).

File handling in C enables us to create, update, read, and delete the files stored on the local file system through our C program. The following operations can be performed on a file.

Requirements: To implement this project student should have knowledge on

1. **Creating Structures.**
2. **String functions.**
3. **Accessing different elements of Structure Array**
4. **Files Handling.**

AIM

THE MAIN AIM OF THIS PROJECT IS TO CREATE ONLINE TRAIN TICKET BOOKING SYSTEM BY USING STRUCTURES, AND FILES TO STORE DETAILS OF PASSENGERS WHO BOOK TRAIN TICKETS AND DISPLAY AVAILABILITY OF TICKETS.

Advantages:-

- Online Reservation systems reduce workload for staff, waiting time in ticket counters for passengers, and optimise customer service. These phased can make bookings easier, simpler and the availabilities are updated with each booking.
- Structures gather more than one piece of data about the same subject together in the same place.
- It is helpful when you want to gather the data of similar data types and parameters like first name, last name, etc.
- It is very easy to maintain as we can represent the whole record by using a single name.
- You can use an array of structure to store more records with similar types.

SYSTEM REQUIREMENTS

- **SOFTWARE REQUIREMENTS:**

  The major software requirements of the project are as follows:

  Language: C

  Operating system**:** Windows XP or later.

  Tools: Dev-C++

- **HARDWARE REQUIREMENTS:**

  The hardware requirements that map towards the software are as follows:

  RAM : 4 GB Min

  Processor : i5 3rd Gen

ALGORITHM

- Step 1: Start.
- Start 2: enter pp(source location),dp(destination point), date of journey(d,m,y).
- Step 3: if d is less than 1 or greater than 31, go to step 6 , else go to step4
- Step 4: if m is less than 1 or greater than 12, goto step6, else go to step5
- Step 5: if y is less than 2022 and greater than 2024 , go to step 6, else goto step8
- Step 6: invalid, please enter again,go to step7
- Step 7: restore the valid date (d/m/y).
- Step8: select an option

    1. Rajdhani Express
    2. Godavari Express
    3. Chennai Express
    4. East Coast Express
    5. Shatabdi Express

- Step 9: enter x
- Step 10: if x is 1 then the train is Rajdhani express and atime is 4:30 pm and dtime is 4:35 pm and pn(platform number) is 1, else go to step11.
- Step 11: if x is 2 then train is Godavari express and print atime is 5:45 pm, dtime is 5:50 pm and pn(platform number) is 4, else go to step12.
- Step 12: if x is 3 then the train is Chennai express and atime is 6:30 pm, dtime is 6:32 pm, and pn(platform number) is 2, else go to step13.
- Step 13: if x is 4 then train is east coast express and atime is 7:45pm, dtime is 7:50 pm and pn(platform number) is 4, else go to step14.
- Step 14: if x is 5 then train is Shatabdi express and atime is 8:30 pm and dtime is 8:33pm and pn(platform number) is 3, else go to step15.

- Step 15: invalid option.

- Step 16: select an option
    1. Sleeper class
    2. AC first class
    3. AC 2 tier class
    4. AC 3 tier class
    5. Second class

- Step 17: enter ch

- Step 18: enter n(number of tickets)

- Step 19: check FOR condition (i=0;i<n;i++),if true go to next step else go to step29

- Step 20: enter passenger i+1's name, gender, and age

- Step 21:repeat step 17 until i<n.

- Step 22: if (age>18),increase 'a' count by 1,else increase c by 1,or c=n-a.

- Step 23: if ch is 1 then print price= (350*a)+(250*(n-a)) else go to step 24

- Step 24: if ch is 2 then print price= (450*a)+(250*(n-a))else go to step 25

- Step 25: if ch is 3 then print price= (550*a)+(350*(n-a)) else,goto step 26.

- Step 26: if ch is 4 then print price= (650*a)+(450*(n-a)) else step 27.

- Step 27: if ch is 5 is then print price= (250*a)+(150*(n-a)) else, go to step 28

- Step 28: if ch is 6 is then print price= (300*a)+(250*(n-a)),else go to step 29

- Step29: print invalid, enter valid choice.

- Step 30: enter pn(contact number)

- Step 31:display available tickets

- Step 32: if tickets in the green color are chosen, go to step 34, else go to step 33.

- Step 33: print(choose tickets in red)
- Step 34: print all the passenger details, train details, and booked details.
- Step 35: print all the passenger details, train details, and booked details.
- Step 36:stop.

IMPLEMENTATION

CODE

```
#include <stdio.h>
#include <stdlib.h>
#include <windows.h>
#include <dos.h>
#include <dir.h>
#include<string.h>
        struct passenger
        {
                char name[20];
                char gender[10];
                int traintkt;
                int age;
        };
        struct passenger p[10];
        char train[30], tclass[20],atime[10], dtime[10],pp[10],dp[10],pn[10];
        void SetColor(int);


int main()
{

        int n,d,m,y,a,c,price,ch, x,i,w,pfn;
        printf("\n\n\n\n\n\n\n\n\n\n\n\n\n");
```

```
        printf("                ********************************************\n");
        printf("                *            DS PROJECT ON             *\n");
        printf("                *      ONLINE RAILWAY TICKET BOOKING       *\n");
        printf("                *                                        *\n");
        printf("                *          SUBMITTED BY:                 *\n");
        printf("                *       2010030057   A. Monika           *\n");
        printf("                *       2110030444   K.DHANA SREE        *\n");
        printf("                *       2110030093   SHAIK AMAAN HUSSAIN  *\n");
        printf("                *                                        *\n");
        printf("                *        UNDER THE ESTEEMED GUIDANCE OF  *\n");
        printf("                *       Dr. Ramasubramanian Krishnamurthy *\n");
        printf("                *          Associate Professor           *\n");
        printf("                ********************************************\n");
        printf("\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n");
        printf("
=========================================\n");
        printf("                ||       WELCOME TO IRCTC SERVICES    ||\n");
        printf("                =========================================");
        printf("\nEnter source location     : ");
          scanf("%[^\n]s",pp);
        printf("\nEnter destination point : ");
          getchar();
    gets(dp);
        printf("\n\nEnter date of journey\n");
        printf("date : ");
         scanf("%d",&d);
                if(d<1 ||d>31)
```

```
		{
			printf("\ninvalid date \n");
			printf("Please enter valid date : ");
			scanf("%d",&d);
		}
	printf("\nmonth : ");
	scanf("%d",&m);
		if(m<1 ||m>12)
		{
			printf("\ninvalid month \n");
			printf("Please enter valid month : ");
			scanf("%d",&m);
		}
	printf("\nyear :");
	scanf("%d",&y);
		if(y<2022 ||y>2024)
		{
			printf("\ninvalid year");
			printf("\nPlease enter valid year : ");
			scanf("%d",&y);
		}

	printf("\n==========================\n");
	printf("\nAVAILABLE TRAINS ARE\n");
  printf("S.NO\tTRAIN.NO     EXPRESS NAME\t\tARRIVES
\tDEPART\t\tPLATFORM\n");
	printf("1.\t1217\t     Rajdhani Express   \t04:30   \t04:35\t\t1 \n");
```

```
        printf("2.\t1457\t     Godavari Express   \t05:45   \t05:50\t\t4 \n");
printf("3.\t1218\t     Chennai Express    \t06:30    \t06:32\t\t2 \n");
printf("4.\t1457\t     EastCoast Express  \t07:45   \t07:50\t\t4 \n");
printf("5.\t1457\t     Satabdhi Express   \t08:30   \t08:33\t\t3 \n");


        {
        do


        {
                printf("enter your choice : ");
                scanf("%d",&x);
                switch(x)
                {
                case 1 :
                                strcpy(train,"Rajdhani Express");
                                strcpy(atime,"04:30 pm");
                                strcpy(dtime,"04:35 pm");
                                pfn=1;
                                break;
                case 2 :


                                strcpy(train,"Godavari Express");
                                strcpy(atime,"05:45 pm");
                                strcpy(dtime,"05:50 pm");
                                pfn=4;
                                break;
          case 3 :
```

```
                    strcpy(train,"Chennai Express");
                    strcpy(atime,"06:30 pm");
                    strcpy(dtime,"06:32 pm");
                    pfn=2;
                    break;
            case 4 :
                    strcpy(train,"East Coast Express");
                    strcpy(atime,"07:45 pm");
                    strcpy(dtime,"07:50 pm");
                    pfn=4;
            case 5 :
                    strcpy(train,"Satabdhi Express");
                    strcpy(atime,"08:30 pm");
                    strcpy(dtime,"08:33 pm");
                    pfn=3;
                    break;
            default:
               printf("invalid option");
               ch==1;


            }
      }while(ch==1);
}


      printf("\n=========================\n");
```

```
        printf("\nCHOOSE CLASS \n[1] => Sleeper Class\n[2] => AC first class\n[3] => AC 2 tier class\n[4] => AC 3 tier class\n[5] => NON AC \n[6] => second class ");
          scanf("%d",&ch);

        printf("\nEnter no of tickets     : ");
                scanf("%d",&n);
                c=0;a=0;
                 for( i=0;i<n;i++)
                        {
                           printf("\nEnter Passenger %d  details",i+1);
                                printf("\n\t passenger %d name: ",i+1);
                                getchar();
                                gets(p[i].name);
                                printf(" \tpassenger %d gender(M/F): ",i+1);
                                scanf("%s",&p[i].gender);
                                printf(" \tpassenger %d age: ",i+1);
                                scanf("%d",&p[i].age);
                                if(p[i].age<15)
                                c++;
                                else
                                a++;
                    }
                    {

                if(ch==1)
                        {
                                strcpy(tclass,"Sleeper Class");
```

```
                price=(350*a)+(250*(n-a));
        }
else if(ch==2)
        {
                strcpy(tclass,"AC first Class");
                price=(450*a)+(250*(n-a));
        }
else if(ch==3)
        {
                strcpy(tclass,"AC  2 tier Class");
                price=(550*a)+(350*(n-a));
        }
else if(ch==4)
        {
                strcpy(tclass,"AC  3 tier Class");
                price=(650*a)+(450*(n-a));
        }
else if(ch==5)
        {
                strcpy(tclass," Non-AC Class");
                price=(250*a)+(150*(n-a));
        }
else if(ch==6)
        {
                strcpy(tclass," Non-AC Class");
                price=(300*a)+(250*(n-a));
        }
```

```
                else if(ch<1 && ch>6)
                {
                        printf("enter valid choice ");

                }
        }
printf("\nEnter contact no : ");
        scanf("%s",pn);
        if(strlen(pn)!=10)
        {
                printf("\nEnter valid  contact no : ");
                scanf("%s",pn);
         }


FILE *tfile;
int t=0,temp,j,ct=0,tt[28],k;
i=0;
tfile=fopen("Bookedtkts.txt","r");
while(!feof(tfile))
{
        fscanf(tfile,"%d",&temp);
        tt[t]=temp;
        t++;
}
printf("\nSeating arrangement is\n\n");
 for(i=1;i<=7;i++)
```

```
    {
        for(j=1;j<=4;j++)
        {
            ct++;
            SetColor(2);
            for(k=0;k<t;k++)
            {
                if(tt[k]==ct)
                {
                    SetColor(4);
                    break;
                }
            }
            if(j>2)
            printf("[%d]\t\t",ct);
            else
            printf("[%d]\t",ct);
        }
        SetColor(15);
        printf("\n\n");
}
fclose(tfile);
printf("Avaliable seats are in colour green\n");
printf("Select %d seats ",n);
int flag;
for(i=0;i<n;i++)
{
```

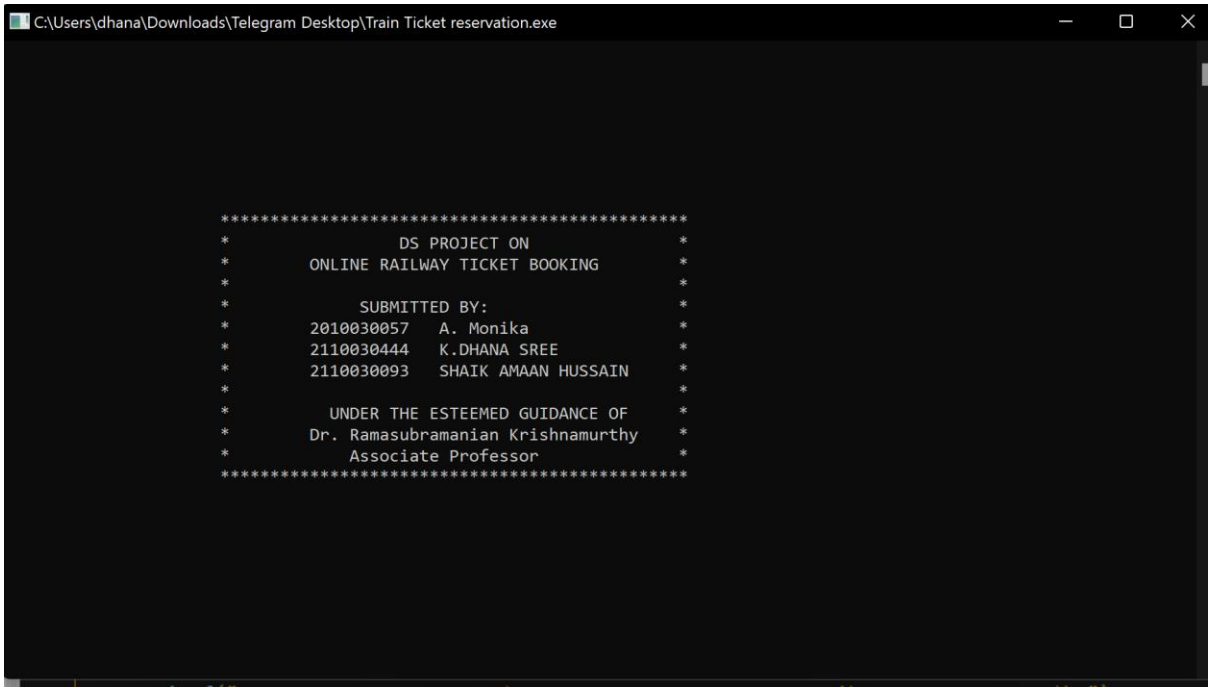
```
        do
        {
                scanf("%d",&p[i].traintkt);
                flag=1;
                for(k=0;k<t-1;k++)
                {
                        if(tt[k]==p[i].traintkt)
                        {
                                printf("\nPlease select avaliable seat ");
                                flag=0;
                                break;
                        }
                }
                if(p[i].traintkt<1 || p[i].traintkt>28)
                {
                        printf("\nPlease enter correct seat number ");
                        flag=0;
                }
        }while(flag==0);
}

FILE *pfile;
pfile=fopen("TDetails.txt","a");
tfile=fopen("Bookedtkts.txt","a");
printf("                WELCOME TO IRCTC SERVICES      \n\n");
printf("              ==========================================\n");
printf("               ||       ELECTRONIC RESERVATION SLIP     ||\n");
```

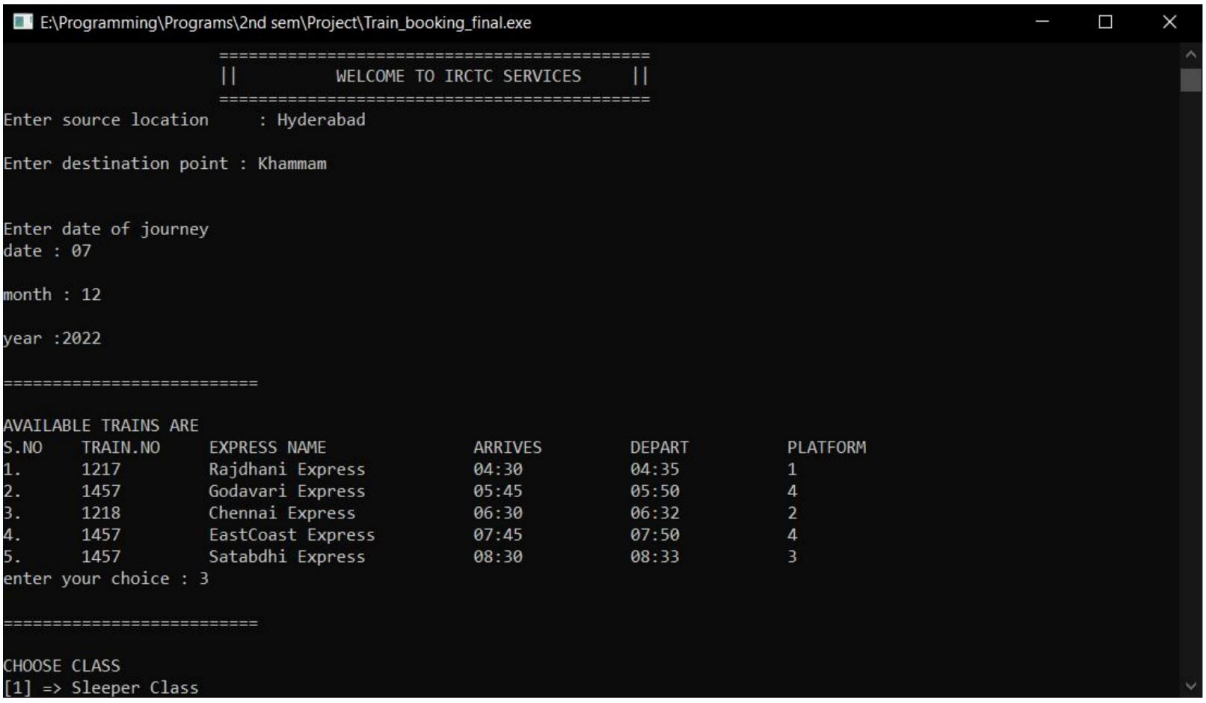
```
        printf("                ========================================");


        time_t ttime;
   time(&ttime);
   fprintf(tfile,"\n booked tickets: ");
   printf("\nBooking time and date : %s", ctime(&ttime));
        printf("\nticket ID          : 44493%s",pn);
        printf("\n\nSource location     : %s",pp);
        printf("\n\nDestination point   : %s",dp);
        printf("\n\nDate of journey     : %d-%d-%d",d,m,y);
        printf("\n\nDate of Departure   : %d-%d-%d",d+1,m,y);
        printf("\n\nNo. of tickets      : %d",n);
        printf("\n\nNo of adults        : %d",a);
        printf("\n\nNo of children      : %d",n-a);
        printf("\n\ncontact number      : %s",pn);
        fprintf(pfile," \n\n                WELCOME TO IRCTC SERVICES     \n\n");
        fprintf(pfile,"
========================================\n");
        fprintf(pfile,"                ||      ELECTRONIC RESERVATION SLIP    ||\n");
        fprintf(pfile,"
========================================");
        fprintf(pfile,"\nBooking time and date : %s", ctime(&ttime));
        fprintf(pfile,"\nticket ID          : 2110030444%s",pn);


        fprintf(pfile,"\n\nSource location     : %s\t\tcontact number      : %s",pp,pn);
        fprintf(pfile,"\n\nDestination point   : %s\t \t Total fare         : Rs.%d",dp,price);
        fprintf(pfile,"\n\nDate of journey     : %d-%d-%d\t\tExpress name        :
%s",d,m,y,train);
```

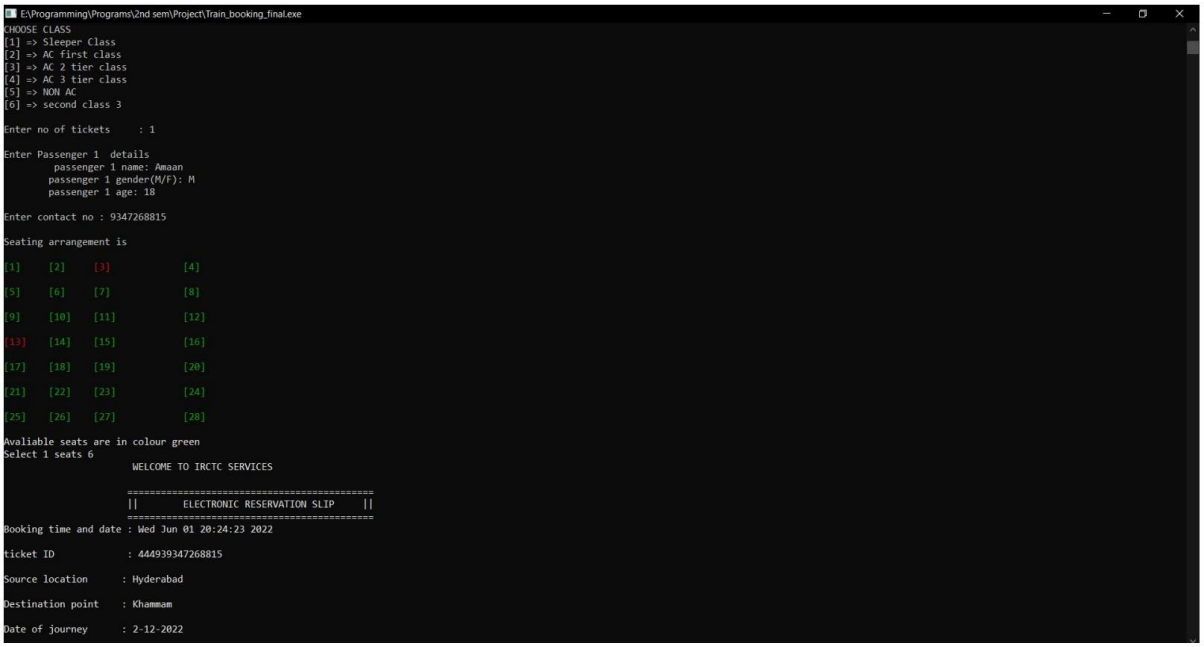
```
        fprintf(pfile,"\n\nDepart on          : %d-%d-%d\t\tTrain arrival time   :
%s",d+1,m,y,atime);

        fprintf(pfile,"\n\nNo. of tickets      : %d\t\t\t   Train departure time : %s",n,dtime);

        fprintf(pfile,"\n\nNo of adults       : %d\t\t\t   Class Name          : %s",a,tclass);


        fprintf(pfile,"\n\nNo of children     : %d\t\t\t   Platform number     : %d",n-a,pfn);


        printf("\n---------------------------------------------------------------------");

        printf("\nS.No\t\tName\t\tGender\t\tAge\t\tTicketNo.");

        fprintf(pfile,"\n---------------------------------------------------------------------");

        fprintf(pfile,"\n\nS.No\t\tName\t\tGender\t\tAge\t\tTicketNo.");

   for(i=0;i<n;i++)

                        {


        printf("\n%d\t\t%s\t\t%s\t\t%d\t\t%d",i+1,p[i].name,p[i].gender,p[i].age,p[i].traintkt);


        fprintf(pfile,"\n%d\t\t%s\t\t%s\t\t%d\t\t%d",i+1,p[i].name,p[i].gender,p[i].age,p[i].trai
ntkt);

                        fprintf(tfile,"%d ",p[i].traintkt);

                         }

                         fprintf(pfile,"\n\n\n");

                printf("\n---------------------------------------------------------------------");

        fprintf(pfile,"\n---------------------------------------------------------------------");

        fprintf(pfile,"\n\n\n\nFor More Details Contact Us On \n011-23340000 / 011-
23340001 / 011-23340002 / 011-23340003\n\n\n");


        printf("\n\nTotal fare          : Rs.%d",price);

        printf("\n\nExpress name        : %s",train);

        printf("\n\nTrain arrival time   : %s",atime);
```

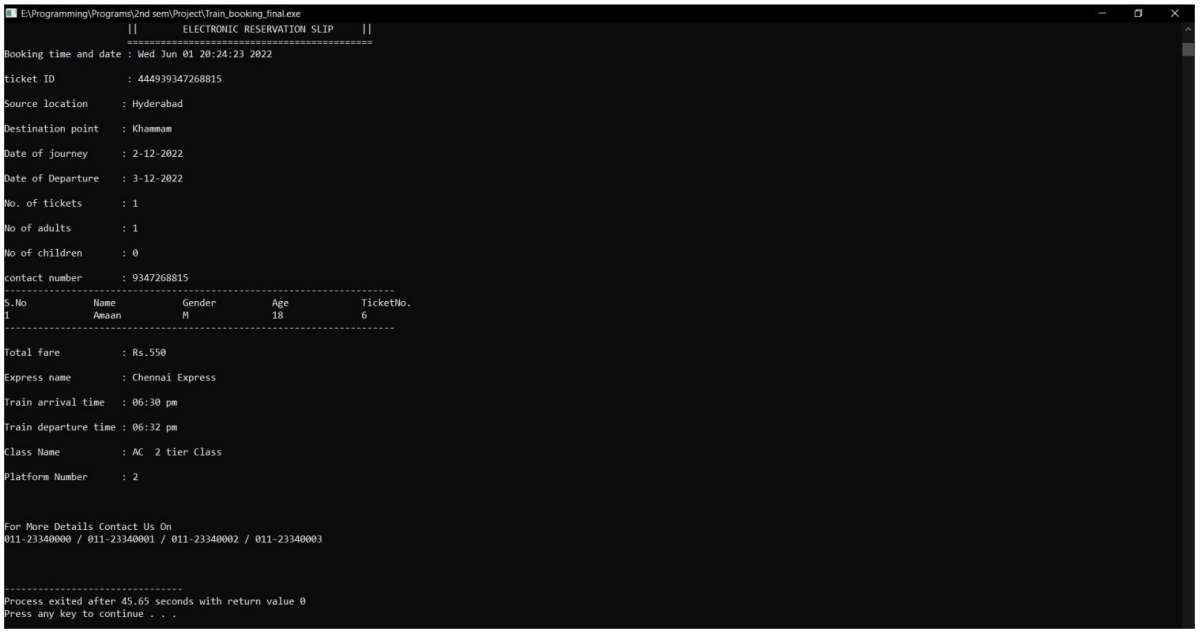
```
        printf("\n\nTrain departure time : %s",dtime);
        printf("\n\nClass Name          : %s",tclass);
        printf("\n\nPlatform Number     : %d",pfn);
        printf("\n\n\n\nFor More Details Contact Us On \n");
        printf("011-23340000 / 011-23340001 / 011-23340002 / 011-23340003\n\n\n ");
        fclose(pfile);
        }



void SetColor(int ForgC)
 {
   WORD wColor;

    HANDLE hStdOut = GetStdHandle(STD_OUTPUT_HANDLE);
    CONSOLE_SCREEN_BUFFER_INFO csbi;
   if(GetConsoleScreenBufferInfo(hStdOut, &csbi))
   {
       wColor = (csbi.wAttributes & 0xF0) + (ForgC & 0x0F);
       SetConsoleTextAttribute(hStdOut, wColor);
   }
   return ;
 }
```

OUTPUTS

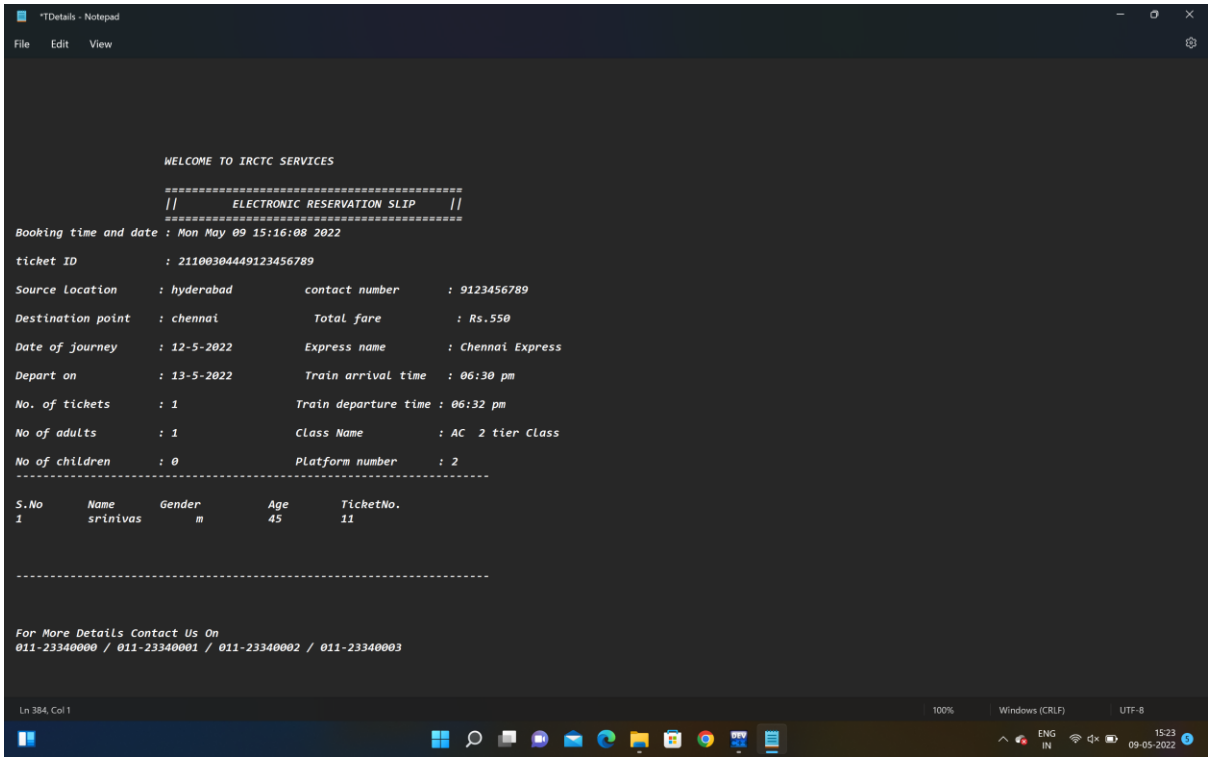

C:\Users\dhana\Downloads\Telegram Desktop\Train Ticket reservation.exe
DS PROJECT ON
ONLINE RAILWAY TICKET BOOKING
SUBMITTED BY:
2010030057 A. Monika
2110030444 K.DHANA SREE
2110030093 SHAIK AMAAN HUSSAIN
UNDER THE ESTEEMED GUIDANCE OF
Dr. Ramasubramanian Krishnamurthy
Associate Professor


E:\Programming\Programs\2nd sem\Project\Train_booking_final.exe
|| WELCOME TO IRCTC SERVICES ||
Enter source location : Hyderabad
Enter destination point : Khammam
Enter date of journey
date : 07
month : 12
year :2022
AVAILABLE TRAINS ARE
S.NO TRAIN.NO EXPRESS NAME ARRIVES DEPART PLATFORM
1. 1217 Rajdhani Express 04:30 04:35 1
2. 1457 Godavari Express 05:45 05:50 4
3. 1218 Chennai Express 06:30 06:32 2
4. 1457 EastCoast Express 07:45 07:50 4
5. 1457 Satabdhi Express 08:30 08:33 3
enter your choice : 3
CHOOSE CLASS
[1] => Sleeper Class

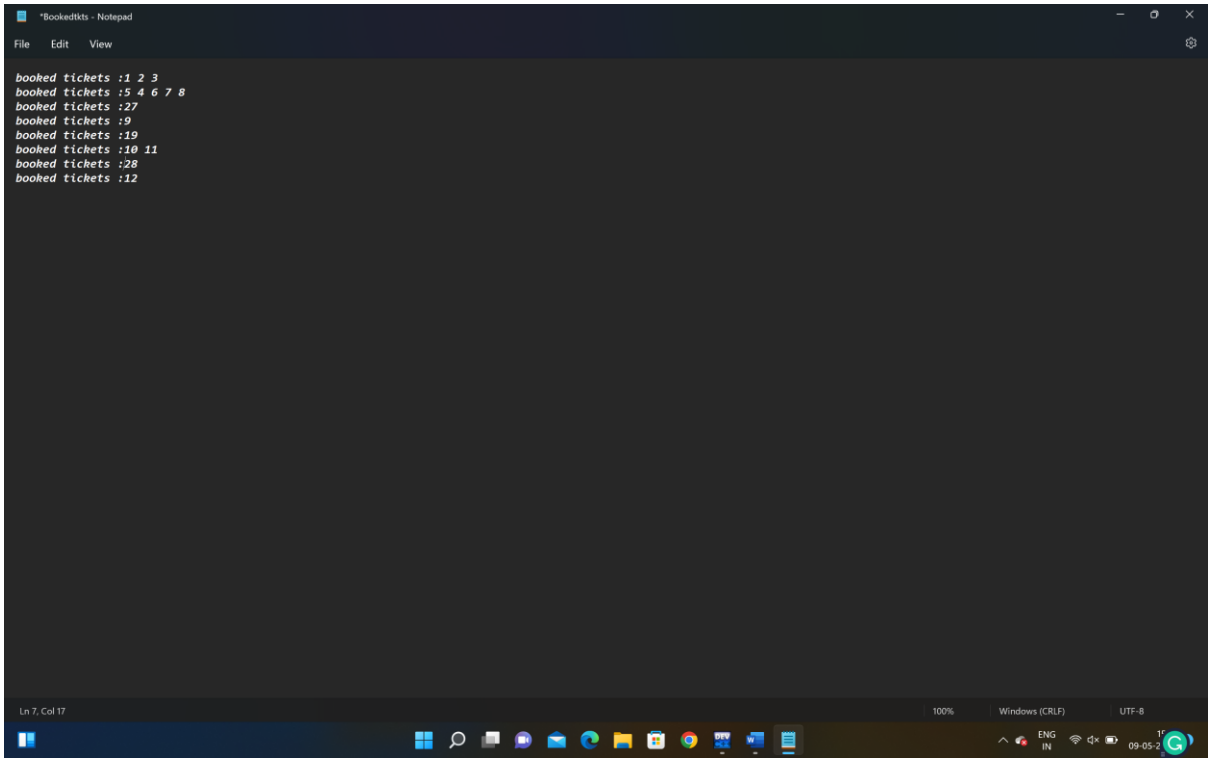

E:\Programming\Programs\2nd sem\Project\Train_booking_final.exe
CHOOSE CLASS
[1] => Sleeper Class
[2] => AC first class
[3] => AC 2 tier class
[4] => AC 3 tier class
[5] => NON AC
[6] => second class 3
Enter no of tickets : 1
Enter Passenger 1 details
passenger 1 name: Amaan
passenger 1 gender(M/F): M
passenger 1 age: 18
Enter contact no : 9347268815
Seating arrangement is
[1] [2] [3] [4]
[5] [6] [7] [8]
[9] [10] [11] [12]
[13] [14] [15] [16]
[17] [18] [19] [20]
[21] [22] [23] [24]
[25] [26] [27] [28]
Avaliable seats are in colour green
Select 1 seats 6
WELCOME TO IRCTC SERVICES
|| ELECTRONIC RESERVATION SLIP ||
Booking time and date : Wed Jun 01 20:24:23 2022
ticket ID : 444939347268815
Source location : Hyderabad
Destination point : Khammam
Date of journey : 2-12-2022


E:\Programming\Programs\2nd sem\Project\Train_booking_final.exe
|| ELECTRONIC RESERVATION SLIP ||
Booking time and date : Wed Jun 01 20:24:23 2022
ticket ID : 444939347268815
Source location : Hyderabad
Destination point : Khammam
Date of journey : 2-12-2022
Date of Departure : 3-12-2022
No. of tickets : 1
No of adults : 1
No of children : 0
contact number : 9347268815
S.No Name Gender Age TicketNo.
1 Amaan M 18 6
Total fare : Rs.550
Express name : Chennai Express
Train arrival time : 06:30 pm
Train departure time : 06:32 pm
Class Name : AC 2 tier Class
Platform Number : 2
For More Details Contact Us On
011-23340000 / 011-23340001 / 011-23340002 / 011-23340003
Process exited after 45.65 seconds with return value 0
Press any key to continue . . .

Stored in files



Booked ticket details



CONCLUSION

Future Work

This project is about implementing online train ticket booking system. This simplifies the risks and makes things faster in the mode of railways.

We are creating and operating a Structure array,files to store multiple records of people who booked a train ticket and update after every booking.