

# RAILWAY RESERVATION SYSTEM



Problem Solving with Programming

**Computer Science & Engineering**

**By**

2203A52201 – M.SRINITHA

**Under the Guidance of**

Triveni ,

Assoc.Prof

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# PSP-PROJECT

## TOPIC- RAILWAY RESERVATION SYSTEM

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**DEPARTMENT OF COMPUTER SCIENCE AND ARTIFICIAL  
INTELLIGENCE**

**CERTIFICATE**

This is to certify that the Course Project Report entitled  
“ **RAILWAY RESERVATION SYSTEM** ” is a record of bonafide work  
carried out by the student(s) **M.SRINITHA** bearing Roll No(s)  
**2203A52201** during the academic year 2022-2023.

**Supervisor**

**Head of the Department**

**External Examiner**

# RAILWAY RESERVATION SYSTEM

## ABSTRACT:



The project is a web based railway ticket reservation. The project objective is to help the passengers to book their tickets for their journey, and can view the available trains with the source and destination at the right arrival time, date including their fare details. This is the user friendly system it means anyone can see the available trains and book their tickets. To book their tickets user must register with their details by entering the train number the seat will be allotted in that particular train. Passenger can also cancel the ticket. After booking without any extra charges. When all the selection is done, passenger will be provided with total fare charges for making their final payment.

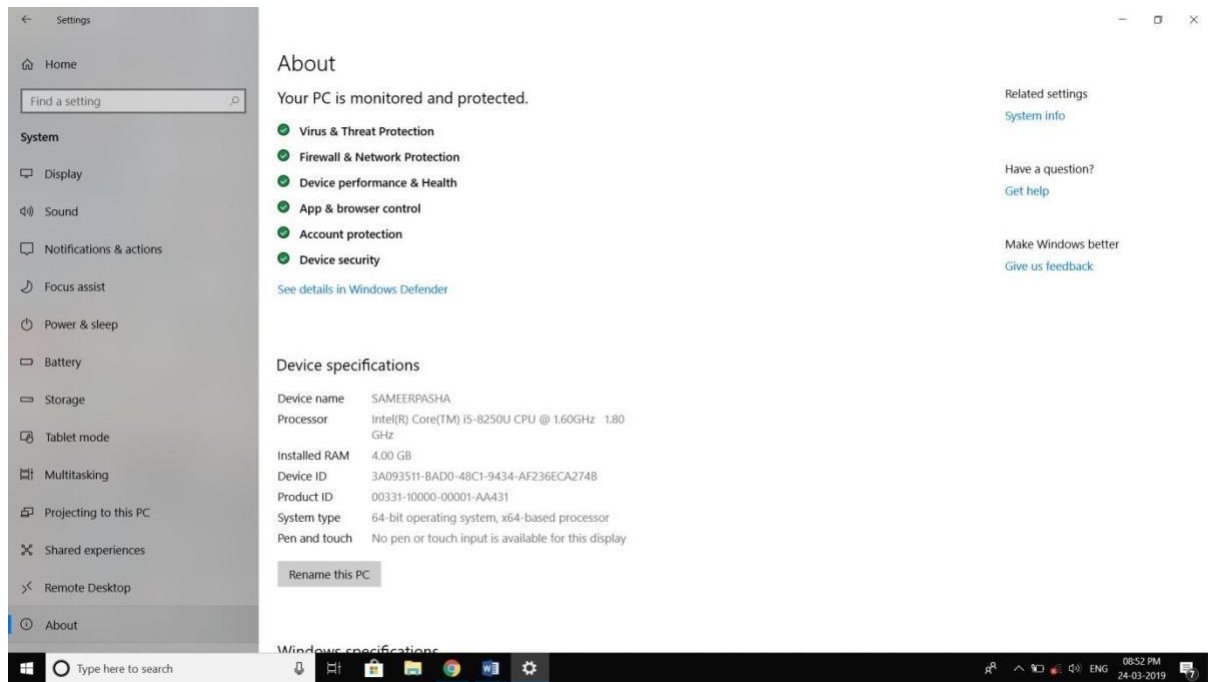
## **This code includes:**

- \* *Add Train*
- \* *Delete Train*
- \* *Book Ticket*
- \* *Cancel Ticket*
- \* *Exist*

The railway reservation system facilitates the passengers to enquiry about the train details which are available on the basis of start and destination, booking and cancellation of tickets, search about the status of the booked ticket, etc

# PROJECT REQUIREMENTS:

## HARDWARE:



SOFTWARE: DEV c++



Dev-C++ is a free full-featured integrated development environment distributed under the GNU General Public License for programming in C and C++. It is written in Delphi. It is bundled with, and uses, the MinGW or TDM-GCC 64bit port of the GCC as its compiler.

**Written in:** Object Pascal

**Developer(s):** Bloodshed Software until 2005, Orwell (Johan Mes) since 2011

**License:** GNU General Public License

**Stable release:** 5.11 / April 27, 2015; 3 years ago

**Operating system:** Microsoft Windows, Linux (alpha only)

## Project Documentation:

In this code we have used function, structures and files:

### **Functions:**

There several advantages of using functions in our code

- ▣ It enhances the readability of a program.
- ▣ Using functions and in our code made easy to understand
- ▣ It reduces the complexity of a program and gives in a modular structure.
- ▣ By implementing functions and procedures in this program, the programmer reduces coding time and debugging time, thereby reducing the overall development time.

Read function() is used to read the details of Train like

- view train details
- Add train
- Delete train

2. Read function() is also used to read the details like

- View passengers
- Book tickets
- Cancel tickets

3. Display function () is used to print details of train .All the train information will be displayed along with the train number

---



,train name,start place,destination place and price,available seats and also time.

If we press 1 for continue:

All train details will be shown on the screen.

If we press 2:

Booking details will display.

If we press 3:

The train will be deleted by using your phone number.

If we press 4:

It will asking admin password after entering the password

They displaying some option like

○ View

○ Add train

○ Delete ○ Back

If we press 5:

Exist

4.Add function () is used to add extra trains to the previous information.

## **Structures:**

It combines datatypes of different kinds. Structures are used to represent a information

## **Files:**

A file represents a **sequence of bytes on the disk where a group of related data is stored**. File is created for permanent storage of data. It is a ready made structure. In C language, we use a structure pointer of file type to declare a file. C provides a number of functions that helps to perform basic file operation.

## Railway reservation system

### Code:

```
#include<stdio.h>
#include<string.h>
#include<windows.h>
#include<stdlib.h>
#include<conio.h>
#include<time.h> #include<string.h>
```

```
void viewinfo(); void
bookticket(); void
cancelticket(); void
admin(); void
password(); void
viewpassenger(); void
addtrain(); void
dltrain();
```

```
struct adddata
{
    char si[10]; char
    train_number[10]; char
    train_name[20]; char
    start[10]; char
```

---

```

        destination[10]; char
        price[10]; int seat; char
        time[10];
    } add[1000];
    struct bookticket
    {
        char
        train_number[20]; char
        name[20]; char phone[20];
        char date[20]; int seat;
    }book[1000]; int k=0,u=0;
    char trn_nmbr[100],name[100],phn[100];
    int main()
    {
        system("CLS");
        int ch;
        time_t currentTime; time(&currentTime); printf("\n\t\t\t
        %s\n",ctime(&currentTime)); printf("\t\t\t***RAILWAY
        RESERVATION SYSTEM*\n"); printf("\n\t\t\t<<<<<<<<<WELCOME
        USERS>>>>>>>>\n"); printf("\n\n\t\t\t\t MENU\n");
        printf("\n\t\t\t\t[1]    VIEW INFORMATION\n");
        printf("\n\t\t\t\t[2]    BOOK    TICKET\n"); printf("\n\t\t\t\t[3]
        CANCEL    TICKET\n");    printf("\n\t\t\t\t[4] ADMIN");
        printf("\n\n\t\t\t\t[5] EXIT\n"); printf("\n\t\t\t\t*****");
        printf("\n\t\t\t\tENTER YOUR CHOICE: "); scanf("%d",&ch); switch(ch)
        {
            case 1:
                viewinfo();
                break; case
            2:
                bookticket()
                ; break; case
            3:

```

```

                                cancelticket();
                                break; case 4:
                                password(); break;
                                case 5:
                                system("cls");
printf("\t\t\t *RAILWAY RESERVATION SYSTEM*\n");
printf("\t\t\t-----");
printf("\n\n\t\t\twrong option\n\n");
getch(); exit(0); break; default:
                                system("cls");
printf("\t\t\t *RAILWAY RESERVATIONSYSTEM*\n");
printf("\t\t\t ----- \n");
printf("\n\n\t\t\t<<<<<YOU ENTERED WRONGCHOICE>>>>>\n\n");
                                getch();
                                system("cls");
}
return 0;
}
void bookticket()
{ int c,j,n,i,found=-1; char v,train_number[10];
  system ("cls");
  printf("\n\t\t\t**RAILWAY RESERVATION SYSTEM**\n");
  printf("\t\t\t-----");
  printf("\n\n\t\t\tthow many ticket do you want to buy: ");
  scanf("%d",&n);
  for(j=u;j<u+n;j++)
  {
    printf("\n\n\t\t\tEnter train number: ");
    scanf("%s", book[j].train_number);
    for(i=0;i<k;i++)
    {
      if(strcmp(book[j].train_number,add[i].train_number)==0)
      {

```





```
;
printf("\n\n\t\t\t<<<<<<<<ticket cancelled
successfully>>>>>>>>)");
; getch(); system("cls");
main();
}
}
void admin()
{
    int chhh; system("cls");
    printf("\n    **RAILWAY RESERVATION SYSTEM**");
    printf("\n -----");
    printf("\n\n");
    printf(" <<<<<<<<WELCOME_ADMIN>>>>>>>>>>>>\n");
    printf("\n\n"); printf(" || CHOOSE YOUR OPERATION ||\n");
    printf(" ||          [1] VIEW PASSENGERS           ||\n"); printf(" ||
[2]
ADD TRAIN      ||\n"); printf(" || [3] DELETE TRAIN
||\n"); printf(" || [4] BACK ||\n");
    printf(" ||                               ||\n");
    printf(" ----- \n");
    printf("\n\t\tENTER YOUR CHOICE: ");
    scanf("%d",&chhh);
    switch(chhh)
    {
        case 1:
            viewpassenger()
            ; break; case 2:
            addtrain(); break; case 3:
            dltrain(); break;
                case 4:
                    system("cls");
```

```

        getch(); main(); break;
        default: getch();
        printf("\n\t\t\t you entered wrong KEY!!!!");
                getch();
                system("cls"); main();
    }
    getch();
}

void password()
{
    int number=1234567; int pass;
    printf("\n\t\t\t enter password: ");
    scanf("%d",&pass);
    if(pass==number)
    {
        printf("\n\n\t\t\t <<<<login successfully>>>>");
        getch(); system("cls"); admin();
    }
    else
    {
        printf("\n\n\t\t\t ERROR!!!!!");
        printf("\n\n\t\t\t <<<<<<<wrong
password>>>>>>>"); getch(); system("cls"); main();
    }
}

void dltrain()
{
    char train[100];
    int location = -1,f;
    printf ("\n\n\tenter train number: "); scanf
("%s",train);
    for (f=0;f<k;f++)
    {

```



```

        if (strcmp(train,add[f].train_number)==0)
        {
            location=f;
            break;
        }
    }
    if (location==-1)
    {
        printf ("\n\t-----Data Not Found-----\n"); getch(); system("cls");
        admin();
    }
    else
    {
        for (f=location;f<k;f++)
        { strcpy(add[f].si,add[f+1].si);
          strcpy(add[f].train_number,add[f+1].train_number);
          strcpy(add[f].train_name,add[f+1].train_name);
          strcpy(add[f].start,add[f+1].start);
          strcpy(add[f].destination,add[f+1].destination);
          strcpy(add[f].price,add[f+1].price);
          strcpy(add[f].time,add[f+1].time);

          } k--
        ;
        printf("\n\n\t-----train deleted successfully-----");
        getch();
        system("cls");
        admin();
    }
}

void viewpassenger()

```



```
*****");  
printf("\n\n\t\t\thow many  
trains do you  
want to add: ");  
scanf("%d",&a);  
for(i=k;i<k+a;i++)  
{  
  
    printf("\n\t\t\tenter %d train details: ",i+1);  
    printf("\n\t\t\tenter serial number: ");  
    scanf("%s",add[i].si); printf("\n\t\t\tenter train  
number: "); scanf("%s",add[i].train_number);  
    printf("\n\t\t\tenter train name: ");  
    scanf("%s",add[i].train_name);  
    printf("\n\t\t\tenter start place: ");  
    scanf("%s",add[i].start);  
    printf("\n\t\t\tenter destination place: ");  
    scanf("%s",add[i].destination);  
    printf("\n\t\t\tenter price: ");  
    scanf("%s",add[i].price); printf("\n\t\t\t  
enter seat: "); scanf("%d", & add[i].seat);  
    printf("\n\t\t\tenter time: ");  
    scanf("%s",add[i].time);  
}  
  
printf("\n\n\t\t\tconfirm train: (y=1/n=0):- ");  
scanf("%d",&ch); if(ch==1)  
{ k=i; system("cls");  
printf("\n\t\t\t****RAILWAY RESERVATION SYSTEM**");  
    printf("\n\t\t\t*****");  
    printf("\n\n");  
printf("\n\t\t\t\t\t<<<<<train add  
successfully>>>>>"); getch(); system("cls"); main();  
}
```

[illegible]

```

                break;
            default:
                exit(0);
        }
    }
}

```

### CODE WITH FILES:

```

#include<stdio.h>
#include<string.h>
#include<stdlib.h>
#include<conio.h>
#include<time.h> #include<string.h>

```

```

void viewinfo(); void
bookticket(); void
cancelticket(); void admin();
void password(); void
viewpassenger(); void
addtrain(); void dltrain(); void
awrite(); void aread(); void
bookticket_write(); void
viewpassengers_read();

```

```

struct adddata
{
    char si[10]; char
    train_number[10]; char
    train_name[20]; char
    start[100]; char
    destination[100]; char
    price[10]; int seat; char
    time[10];
} add[1000];

```

```

struct bookticket
{
    char
    train_number[20]; char
    name[20]; char
    phone[20]; char date[20];
    int seat; }book[1000];

int k=0,u=0; char
trn_nmbr[100],name[100],phn[100];
int main()
{
    read(); viewpassengers_read(); system("CLS"); int ch;
    time_t currentTime; time(&currentTime);
    printf("\n\t\t\t %s\n",ctime(&currentTime));
    printf("\n\t\t\t RAILWAY RESERVATION SYSTEM
    \n");
    printf("\n\t\t\t<<<<<<<<WELCOMEUSERS>>>>>>>>\n");
    printf("\n\t\t\t-----");
    printf("\n\n\t\t\t MENU\n");
    printf("\n\t\t\t[1] VIEW INFORMATION\n");
    printf("\n\t\t\t[2] BOOK TICKET\n");
    printf("\n\t\t\t[3] CANCEL TICKET\n");
    printf("\n\t\t\t[4] ADMIN"); printf("\n\n\t\t\t[5]
    EXIT\n"); printf("\n\t\t\t-----
    -"); printf("\n\t\t\tENTER YOUR CHOICE: ");
    scanf("%d",&ch); switch(ch)
    {
        case 1: viewinfo(); break;
        case 2:
            bookticket(); break;
        case 3:
            cancelticket();

```

```

        break; case 4:
        password(); break;
        case 5:
            system("cls");

printf("\t\t\t RAILWAY RESERVATION SYSTEM \n");

        break;
        default:

printf("\n\n\t\t\t<<<<<<<ENTERED WRONG CHOICE>>>>>>>\n");

        system("cls");

main();
    }
    return 0;
}

void bookticket()
{ int c,j,n,i,found=-1; char
  v,train_number[10
]; system ("cls"); aread();
printf("\n\t\t\t RAILWAY RESERVATION SYSTEM \n");
printf("\n\n\t\t\tHow many ticket do you want to buy?: ");
scanf("%d",&n);
for(j=u;j<u+n;j++)
{
printf("\n\n\t\t\tEnter train number: ");
scanf("%s", book[j].train_number);
for(i=0;i<k;i++)
{

```

```

if(strcmp(book[j].train_number,add[i].train_number)==0)
{
if(add[i].seat==0)
{
printf("\n\n\t\tseats are not available"); system("cls");
main();
}
else
{
found=1; printf("\n\t\t\tenter book %d no ticket:
",j+1);
printf("\n\t\t\tenter date: ");
scanf("%s",book[j].date); printf("\n\t\t\tenter
your name: "); scanf("%s",book[j].name);
printf("\n\t\t\tenter your phone number: ");
scanf("%s",book[j].phone); printf("\n\t\t\tseat
number : %d",add[i].seat );
book[j].seat=add[i].seat; bookticket_write();
add[i].seat--; awrite();
}
}
}
if(found== -1)
{
printf("\n\n\t\t\ttrain not found");
getch(); system("cls"); main();
}
} u=j;
bookticket_write(); printf("\n\n\t\t\tenter '1' for main
menu & press any key to exit: "); scanf("%d",&c); if(c==1)
{
system("cls");
main();
}

```





```

        strcpy(book[e].date,book[e+1].date);
        strcpy(book[e].train_number,book[e+1].train_number);
        strcpy(book[e].name,book[e+1].name);
        strcpy(book[e].phone,book[e+1].phone);
        bookticket_write();
    }
    u--;
    bookticket_write();

printf("\n\n\t\t\t<<<<<<ticketcancelledsuccessfully>>>>>>>");
    getch(); system("cls"); main();
}
}
void admin()
{
    int chhh;
    system("cls");
    printf("\n\n");
    printf(" <<<<<<WELCOME_ADMIN>>>>>>\n"); printf("\n\n");
    printf(" CHOOSE YOUR CHOICE    \n");
    printf("-----\n");
    printf(" [1] VIEW PASSENGERS \n");
    printf(" [2] ADD TRAIN \n"); printf("
[3] DELETE TRAIN \n");
    printf(" [4] BACK        \n");
    printf(" \n");
    printf("\n\t\t\tENTER YOUR CHOICE: "); scanf("%d",&chhh);
    switch(chhh)
    {
        case 1:
            viewpassenger() ; break;
        case 2: addtrain(); break;

```



```
aread(); char  
train[100]; int location  
= -1,f;  
printf ("\n\n\tenter train number: "); scanf  
("%s",train);  
for (f=0;f<k;f++)  
{  
    if (strcmp(train,add[f].train_number)==0)  
    {  
        location=f;  
        break;  
    }  
}  
if (location==-1)  
{  
    printf("\n\n\t<<<<<<<DataNotFound>>>>>>>>>>>>>\n");  
    getch(); system("cls"); admin();  
}  
else  
{  
    for (f=location;f<k;f++) {  
        strcpy(add[f].si,add[f+1].si);  
        strcpy(add[f].train_number,a  
dd[f+1].train_number);  
        strcpy(add[f].train_name,add[f+1].train_name);  
        strcpy(add[f].start,add[f+1].start);  
        strcpy(add[f].destination,add[f+1].destination);  
        strcpy(add[f].price,add[f+1].price);  
  
        strcpy(add[f].time,add[f+1].time);  
        awrite();  
    } k--;  
    awrite()
```

```

        ;
printf("\n\n\t<<<<<train deleted successfully>>>>>>>>>>>>");
        getch(); system("cls"); admin();
    }
}

void viewpassenger()
{ int a,j; system("cls");
  viewpassengers_read()
  ;
  printf("\n\t\t\t RAILWAY RESERVATION SYSTEM ");
printf("\n\n\t\t\ttrainnumber\t\tname\t\tphonenumber\t\tseat\n");
for(j=0;j<u;j++)
    {
        printf("\n\t\t\t%s\t\t\t%s\t\t\t%s\t\t\t%s\t\t\t%d",book[j].train_num
ber,book[j].name,book[j].phone,book[j].date,book[j].seat);
        book[j].seat++;
    }
printf("\n\n\t\t\tenter '1' for main menu & enter '0' for back: ");
scanf("%d",&a);
if(a==1)
{
    system("cls");
    main();
}
if(a==0)
{
    system("cls");
    admin();
}
}

void addtrain()

```

```

{
    system("cls");
    int ch; aread();
    int i,a;
    printf("\n\t\t RAILWAY RESERVATION SYSTEM ");
    printf("\n\n\t\t How many trains do you want to add?: ");
    scanf("%d",&a);
    for(i=k;i<k+a;i++)
    {
        printf("\n\t\t\t enter %d train details:
        ",i+1); printf("\n\t\t\t enter serial number:
        "); scanf("%d",add[i].si);
        printf("\n\t\t\t enter train number: ");
        scanf("%d",add[i].train_number);
        printf("\n\t\t\t enter train name: ");
        scanf("%s",add[i].train_name);
        printf("\n\t\t\t enter start place: ");
        scanf("%s",add[i].start);
        printf("\n\t\t\t enter destination place: ");
        scanf("%s",add[i].destination);
        printf("\n\t\t\t enter price: ");
        scanf("%d",add[i].price); printf("\n\t\t\t
        enter seat: "); scanf("%d", & add[i].seat);
        printf("\n\t\t\t enter time: ");
        scanf("%s",add[i].time);
    }

    printf("\n\n\t\t\t confirm train: (y=1/n=0):- ");
    scanf("%d",&ch); if(ch==1)
    { awrite(); k=i; awrite()
        ;
        system("cls");

```

```

printf("\n\t\t\tRAILWAY RESERVATION SYSTEM ");
printf("\n\n"); printf("\n\t\t\t\t<<<<<train add
successfully>>>>>");
        getch(); system("cls");
        main();
    }
    if(ch==0)
    {
        system("cls");
        admin();
    }
    if((ch!=1)&&(ch!=0))
    {
        system("cls");
        main();
    }
}

void viewinfo()
{ int ch,i;
  system("cls")
  ;
  aread();
  printf("\n\t\t\tRAILWAY RESERVATION SYSTEM");
  printf("\n\n\nSI\ttrainnumber\ttrainname\t\tstart
place\tdestination place\tprice\tseat\ttime\n\n"); for(i=0;i<k;i++)
  {

      printf("\n\n\n%d\t%d\n",add[i].si,add[i].train_number,add[i].tr
ain_name,add[i].start,add[i].destination,add[i].price,add[i].seat,a
dd[i].time);
  }
}

```





```

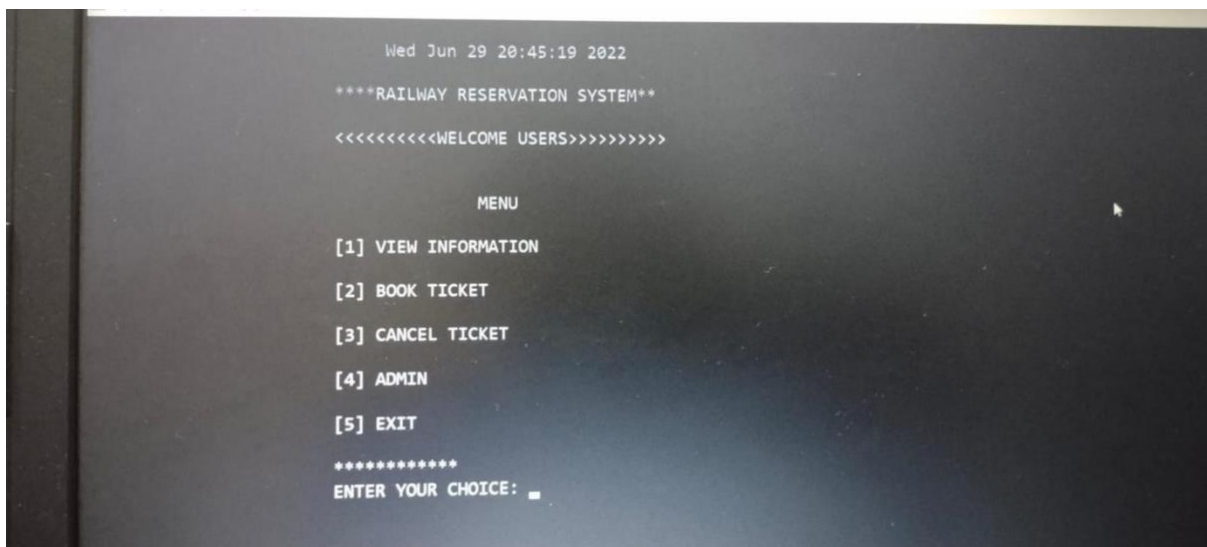
{
    FILE *train_details; train_details =
    fopen("train_details.txt","w");
    fwrite(&add,sizeof(add),1,train_details);
    fclose(train_details); FILE *train_report;
    train_report = fopen("train_report.txt","w");
    fwrite(&k,sizeof(k),1,train_report);
    fclose(train_report);
}
void aread()
{
    FILE *train_details; train_details =
    fopen("train_details.txt","r");
    fread(&add,sizeof(add),1,train_details); fclose(train_details);

    FILE *train_report; train_report =
    fopen("train_report.txt","r");
    fread(&k,sizeof(k),1,train_report); fclose(train_report);
}

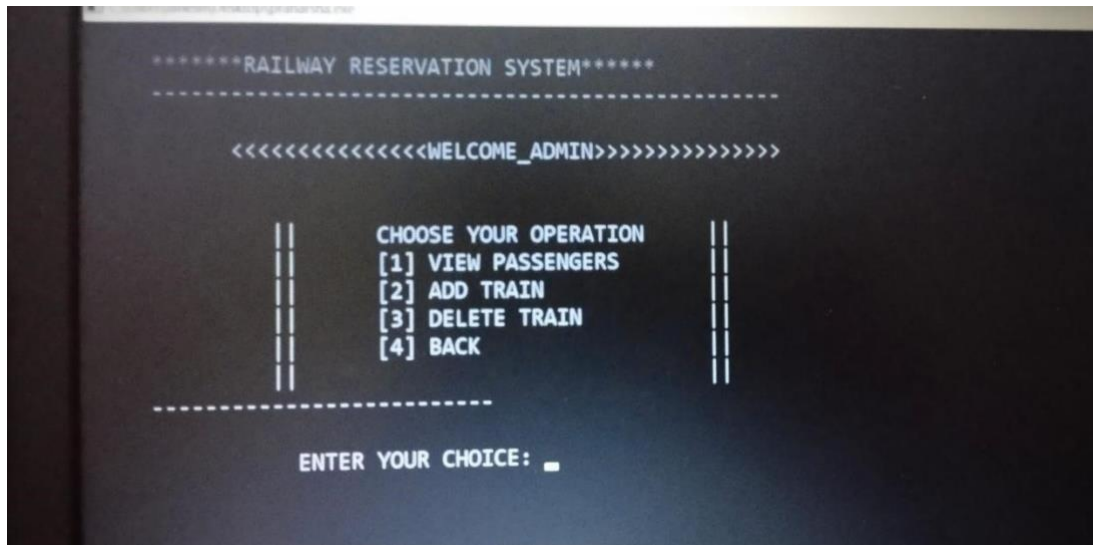
```

OUTPUT:

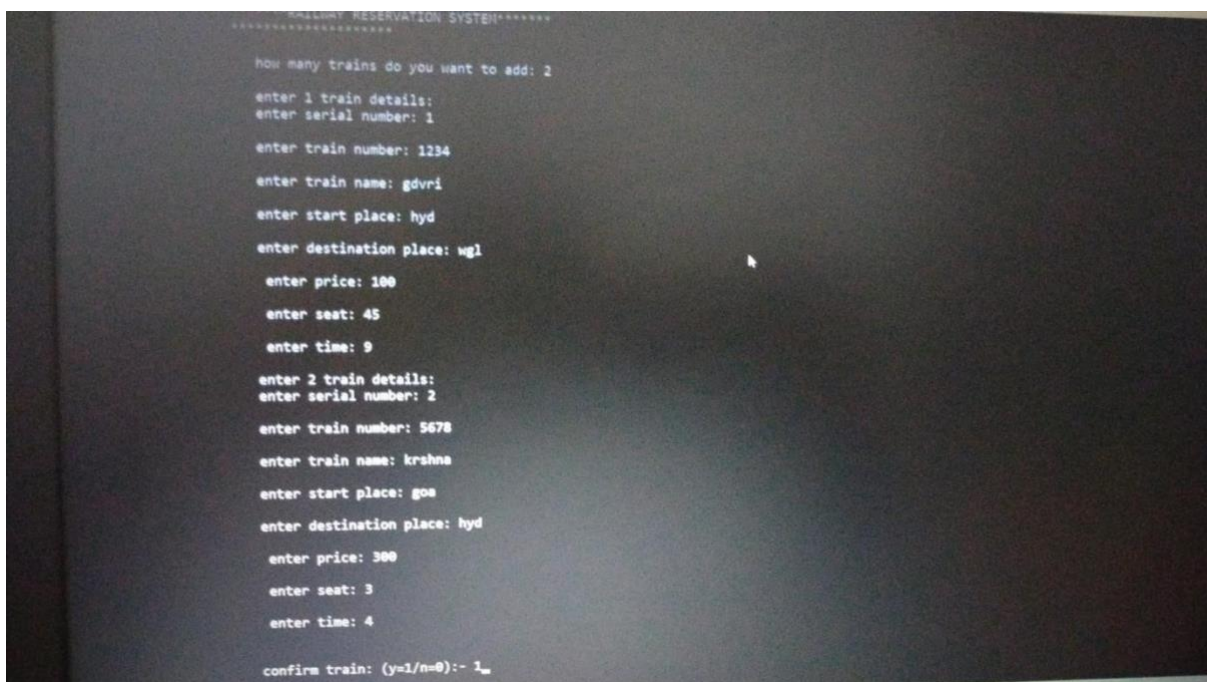
Entering the details:



By selecting the option 4:



## Adding the train details.



```
CAUsers\dinesh\Desktop\praharsha.exe

*****RAILWAY RESERVATION SYSTEM*****
*****

SI  train number  train name  start place  destination place  price  seat  time
1      1234      gdvri      hyd      wgl      100      45      9
2      5678      krshna      goa      hyd      300      3      4
-----

press '1' for main menu & press any key for exit: _
```

```
*****RAILWAY RESERVATION SYSTEM***
-----

how many ticket do you want to buy: 1

Enter train number: 1234

enter book 1 no ticket:
enter date: 6

enter your name: pinky

enter your phone number: 9182000134

seat number : 45

enter '1' for main menu & press any key to exit: 1_
```

```
pp\praharsha.exe

*****RAILWAY RESERVATION SYSTEM*****

train number      name      phone number      date      seat
-----
1234      pinky      9182000134      6      45
*****

enter '1' for main menu & enter '0' for back: _
```

OUTPUTS OF FILES







