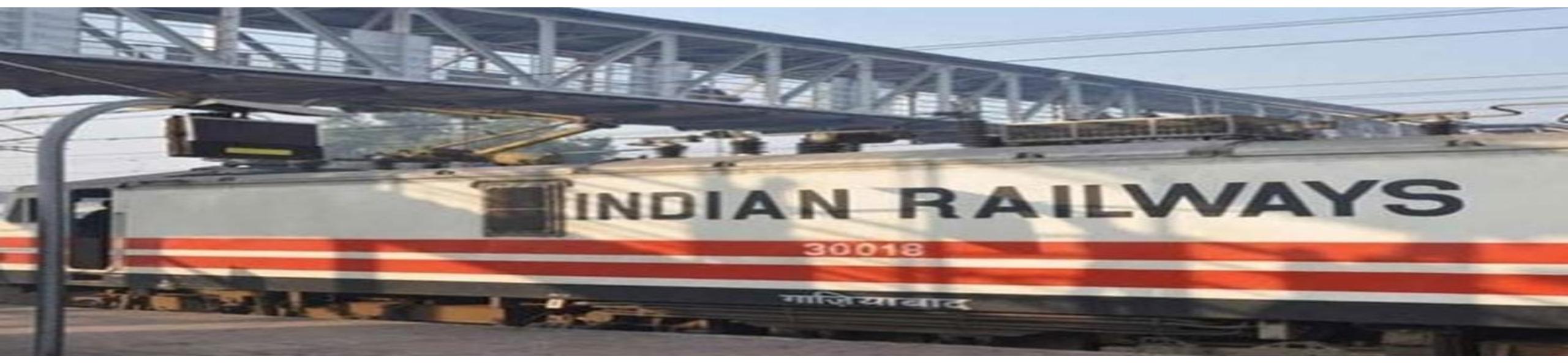




PROJECT TOPIC:

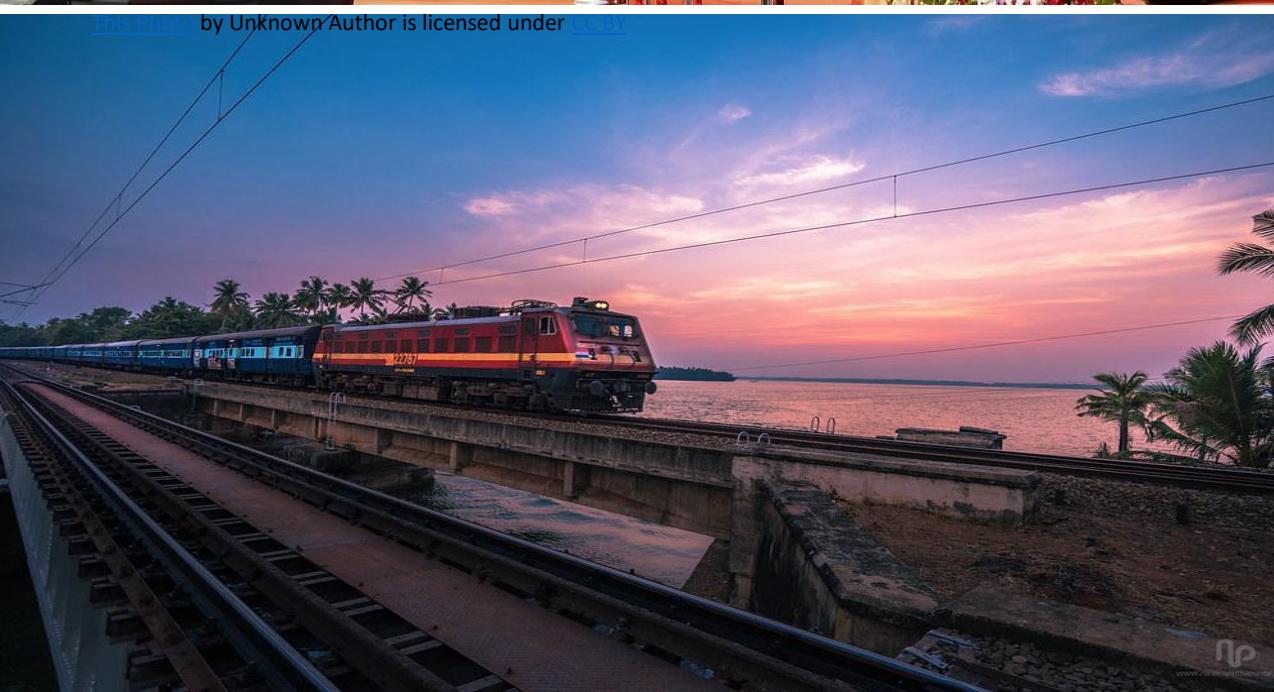
TRAIN TICKET RESERVATION SYSTEM

By: Shivam Kumar Singh
Sap id:590027806

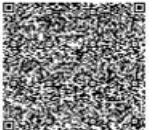




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Electronic Reservation Slip (ERS)-Normal User				
Booked from		Boarding At		To
BIKANER JN (BKN)		BIKANER JN (BKN)		ABU ROAD (ABR)
Start Date* 17-Nov-2025		Departure* 07:40 17-Nov-2025		Arrival* 16:25 17-Nov-2025
PNR 2724906927	Train No./Name 20475/BKN MRJ SF	Quota GENERAL (GN)	Distance 546 KM	Class SLEEPER CLASS (SL)
Passenger Details				
# Name	Age	Gender	Booking Status	Current Status
1. LOKESH	20	M	CNF/S4/25/LOWER	CNF/S4/25/LOWER
2. PRAHLAD SINGH RA	20	M	CNF/S4/26/MIDDLE	CNF/S4/26/MIDDLE
3. DINESH KUMAR	20	M	CNF/S4/27/UPPER	CNF/S4/27/UPPER
4. YUVRAJ	19	M	CNF/S4/28/LOWER	CNF/S4/28/LOWER
5. RAGHUVEER SINGJ	20	M	CNF/S4/29/MIDDLE	CNF/S4/29/MIDDLE
6. REKHA	20	F	CNF/S4/30/UPPER	CNF/S4/30/UPPER
Acronyms:		RLWL: REMOTE LOCATION WAITLIST	PQWL: POOLED QUOTA WAITLIST	RSWL: ROAD-SIDE WAITLIST
Transaction ID: 100006127584425				
IR recovers only 57% of cost of travel on an average.				
Payment Details				
Ticket Fare	₹ 2,160.00			
IRCTC Convenience Fee (Incl. of GST)	₹ 11.80			
Travel Insurance Premium (Incl. of GST)	₹ 2.70			
Total Fare (all inclusive)	₹ 2,174.50			
PG Charges as applicable (Additional)				
<ul style="list-style-type: none"> Beware of fraudulent customer care number. For any assistance, use only the IRCTC e-ticketing Customer care number:14646. IRCTC Convenience Fee is charged per e-ticket irrespective of number of passengers on the ticket. The printed Departure and Arrival Times are liable to change. Please Check correct departure, arrival from Railway Station Enquiry or Dial 139 or SMS RAIL to 139. This ticket is booked on a personal User ID, its sale/purchase is an offence u/s 143 of the Railways Act,1989. Prescribed original ID proof is required while travelling along with SMS/ VRM/ ERS otherwise will be treated as without ticket and penalized as per Railway Rules. 				
Indian Railways GST Details:				
Invoice Number:	PS25272490692711	Address:	Indian Railways New Delhi	
Supplier Information:				
SAC Code:	996421	GSTIN:	07AAAGM0289C1ZL	
Recipient Information:				
GSTIN:	NA			



INTRODUCTION:

- Project Title : Train Ticket Reservation System
- Course : Programming in C
- Course Faculty : Mr. Prashant Trivedi
- University : UNIVERSITY OF PETROLEUM AND ENERGY STUDIES(U.P.E.S)
- School : School of Computer Science
- Date : 01/12/2025



ABSTRACT:

This project presents a Train ticket reservation system made by learning concepts in programming in c .

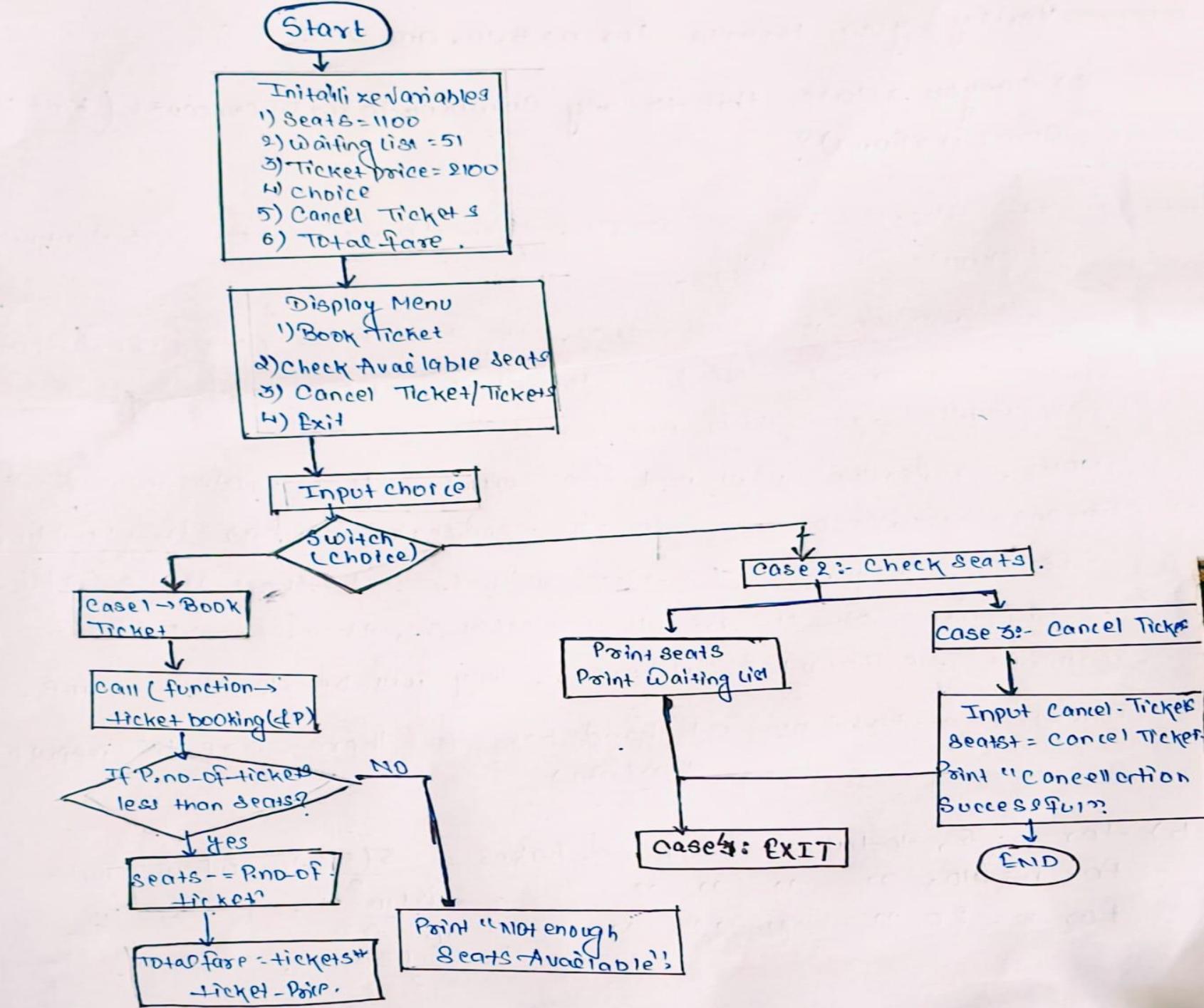
The goal of this project is to allow user to book train ticket by entering his/her information like their name , age , station for boarding the train to the destination ,in which he train he want to book ticket and how much tickets he want to book and what will be the fare of his ticket/tickets. The project integrate many concepts like input/output switch case . And after applying all this condition the code in the project will print passenger details along with his boarding point ,destination ,total fare etc , and n.o of seats available or waiting etc

Problem Definition

- Our country's railway system manages a large number of passengers daily . The code is simplified model of how the I.R.C.T.C website book tickets for large number of passengers daily and a this code shows a small trial to book tickets.
- Asks for user choice whether he wants to book tickets/wants to check seats availability or if tickets are booked he want to cancel the train tickets.
- Allows passenger to enter personal and journey details.
- Displays to enter train in which passengers wants to book the ticket.
- Calculates total tickets cost.
- Manages seats available and waiting list.
- Displays printed format of ticket.

SYSTEM DESIGN

- FLOWCHART



SYSTEM DESIGN

- ALGORITHM
- 1)Start
- 2)define structure details for passenger's details:

```
Char passenger first name[51];
char passenger middle name[21];
char passenger last name[21];
int age;
char train name[21];
int pnr n.o;
char From[21];
Char To[21];
int n.o of tickets;
```

IMPLEMENTATION DETAILS

- Important Snippets
- 1)Structure for details
- Struct details{
 char name[51];
- int age;
- char train name[21];
- int
- char From[21];
- char To[21];
- int number of tickets;

- 2)Declare a void function for taking input of details of passenger
- 3)In main function declare variables int choice , canceltickets , total fare
- Declare and initialize variables seats=1100 , waiting list=51 ,ticket price=2100;
- 4)Display a message "Indian Railway Welcomes You"
- 5)Use do – while loop repeat until user choose exit option(i.e case 4)
- In the loop print menu a)show menu:
 - 1)book ticket
 - 2)check available seats
 - 3)cancel ticket
 - 4)exit
- and
- print "enter your choice" and take input choice
- Use switch case for choice

6) If choice is 1(book ticket)

call ticket booking(&p); to collect all passenger's details

if request tickets are less than equal to seats(tickets<=seats);

*seats=seats-p.no of tickets

*total_fare=p.no of tickets*tickets price;

print booking confirmation and passenger's details.

*else if requested tickets<=seats + waiting list

*tickets in waiting=p.no of tickets-seats

waiting list-=tickets in waiting

*seats=0;

*print waiting list message

else:

print no tickets availability message

7) Case 2: If choice is 2:
print available seats and waiting list count

8) If choice is 3:
ask user to how many tickets he/she wants to cancel

*seats-=cancel tickets
*print updated seats.

9)If choice is 4:
print thank you message
Exit loop

10) end

TESTING & RESULTS

Test Case Examples:

- 1) Valid booking , seats available :- Ticket Generated
- 2) Seats not available : Added to waiting list

3) EXECUTION SCREENSHOT

```
PS C:\Users\Shivam Singh\OneDrive\Desktop\programming in c\GITHUB> cd "c:\Users\Shivam Singh\OneDrive\Desktop\programming in c\GITHUB\" ; if ($?) { gcc programmingincproject.c -o programmingincproject } ; if ($?) { .\programming incproject }
```

INDIAN RAILWAY WELCOMES YOU!!!!

Menu:

- 1) Book Ticket
- 2)Check Available Seats

Cancel Ticket

4)exit

enter your choice

1

enter passengers's name:

shivam

enter passenger's middle name:

kumar

enter passenger's last name:

singh

enter passenger's age:

18

enter train name:

rajdhani_express

enter pnr number:

1111

from:

delhi

To:

ahemdabad

total n.o of tickets:21

total fare is:44100

seats left now:1079

18

enter train name:

rajdhani_express

enter pnr number:

1111

from:

delhi

To:

ahemdabad

enter n.o of tickets you want:

21

Booking Successfull,Have a nice journey

Train's pnr n.o:1111

passenger's name:shivam kumar singh

passenger's age:18

Train's name:rajdhani_express

From:delhi

To:ahemdabad

total n.o of tickets:21

total fare is:44100

seats left now:1079

EXECUTION SCREENSHOT

Menu:

- 1) Book Ticket
- 2)Check Available Seats

Cancel Ticket

4)exit

enter your choice

2

Available seats are:1079

waiting slots:51

Menu:

- 1) Book Ticket
- 2)Check Available Seats

Cancel Ticket

4)exit

enter your choice

3

enter n.o of tickets you want to cancel:

5

cancellation successful! seats available now:1084

Menu:

- 1) Book Ticket
- 2)Check Available Seats

Cancel Ticket

I

4)exit

enter your choice

4

thank you for using indian railway site

PS C:\Users\Shivam Singh\OneDrive\Desktop\Programming in c\GITHUB>

CONCLUSION: The train ticket reservation system code successfully performs booking my tracking passenger's inputs ,calulates fare and generated ticket in printed format

FUTURE ENHANCEMENTS:

- 1)Add real time database storage
- 2)Include details for passenger of each ticket
- 3)Add features of showing passenger's seat no and his compartment
- 4)Introduce multiple train classes like general ,1st a.c , 2nd a.c, 3rd a.c etc in ticket
- 5)introduce time of departure and time of arrival also in ticket
- 6)introduce distance of destination from boarding station
- 7)Introduce user authentication

REFERENCES:

- 1)Class Notes

APPENDIX

```
C programmingincproject.c > ticket_booking(details *)
1 #include <stdio.h>
2 #include <string.h>
3
4 struct details{
5     char passenger_first_name[51];
6     char passenger_middle_name[21];
7     char passenger_last_name[21];
8     int Age;
9     char train_name[21];
10    int pnr_no;
11    char From[52];
12    char To[52];
13    int no_of_tickets;
14 };
15
16 void ticket_booking(struct details *p){
17
18     printf("\nEnter passenger's name:\n");
19     scanf("%50s", p->passenger_first_name);
20
21     printf("Enter passenger's middle name:\n");
22     scanf("%20s", p->passenger_middle_name);
23
24     printf("Enter passenger's last name:\n");
25     scanf("%20s", p->passenger_last_name);
26
27     printf("\nEnter passenger's age:\n");
28     scanf("%d", &p->Age);
```

APPENDIX

```
C programmingincproject.c > ticket_booking(details *)
16     oid ticket_booking(struct details *p){
17
18         printf("\nEnter passenger's age:\n");
19         scanf("%d",&p->Age);
20
21
22         printf("Enter train name:\n");
23         scanf("%20s",p->train_name);
24
25         printf("Enter pnr number:\n");
26         scanf("%d",&p->pnr_no);
27
28         printf("From:\n");
29         scanf("%50s",p->From);
30
31         printf("To:\n");
32         scanf("%50s",p->To);
33
34         printf("Enter n.o of tickets you want:\n");
35         scanf("%d",&p->no_of_tickets);
36
37
38
39
40
41
42
43
44
45
46
47
48
49     int main(){
50         int choice;
51         int seats=1100;
52         int waiting_list=51;
53         int ticket_price=2100;
54         int cancel_tickets;
```

APPENDIX

```
C programmingincproject.c > ticket_booking(details *)
49 int main(){
50     int choice;
51     int seats=1100;
52     int waiting_list=51;
53     int ticket_price=2100;
54     int cancel_tickets;
55     int total_fare;
56     struct details p;
57     printf("INDIAN RAILWAY WELCOMES YOU!!!!\n");
58     do{
59         printf("\nMenu:\n");
60         printf("1) Book Ticket\n");
61         printf("2)Check Available Seats\n");
62         printf("Cancel Ticket\n");
63         printf("4)exit\n");
64         printf("enter your choice\n");
65         scanf("%d",&choice);
66
67         switch(choice){
68             case 1: ticket_booking(&p);
69             if(p.no_of_tickets<=seats) {
70                 seats-=p.no_of_tickets;
71                 total_fare =p.no_of_tickets*ticket_price;
72
73                 printf("\nBooking Successful!,Have a nice journey\n");
74                 printf("*****\n");
75                 printf(" Train's pnr n.o:%d\n",p.pnr_no);
76                 printf("passenger's name:%s %s %s\n",p.passenger_first_name,p.passenger_middle_name,p.passenger_last_name);
77             }
78         }
79     }
80 }
```

APPENDIX

```
73
74     printf("\nBooking Successful, Have a nice journey\n");
75     printf("*****\n");
76     printf(" Train's pnr n.o:%d\n",p.pnr_no);
77     printf("passenger's name:%s %s %s\n",p.passenger_first_name,p.passenger_middle_name,p.passenger_last_name);
78     printf("passenger's age:%d\n",p.Age);
79     printf("Train's name:%s\n",p.train_name);
80     printf("From:%s\n",p.From);
81     printf("To:%s\n",p.To);
82     printf("total n.o of tickets:%d\n",p.no_of_tickets);
83     printf("total fare is:%d\n",total_fare);
84     printf("seats left now:%d\n",seats);
85
86 }
87 else if(p.no_of_tickets<=seats+waiting_list){
88     int tickets_in_waiting=p.no_of_tickets-seats;
89     waiting_list-=tickets_in_waiting;
90     seats=0;
91     printf("\nAll seats are filled, but %d tickets are in waiting list.\n",tickets_in_waiting);
92     printf("you will get confirmation later.\n");
93 }
94 else{
95     printf("\n not enough seats available for booking nor waiting seats are available\n");
96 }
```

APPENDIX

```
C programmingincproject.c > ...
101
102
103
104
105     case 2: printf("\nAvailable seats are:%d\n",seats);
106         printf("waiting slots:%d\n",waiting_list);
107         break;
108
109     case 3:printf("enter n.o of tickets you want to cancel:\n");
110         scanf("%d",&cancel_tickets);
111         seats+=cancel_tickets;
112         printf("cancellation successful! seats available now:%d\n",seats);
113         break;
114
115
116     case 4:printf("\n thanking you for using indian railway site\n");
117         break;
118     default:printf("\n invalid choice! try again.\n");
119     }
120 }while(choice!=4);
121 return 0;
122 }
```