PROJECT TOPIC:

TRAIN TICKET RESERVATION SYSTEM (REPORT)

BY: Shivam kumar singh

SAP ID:590027806

IRCTC

INDIAN RAILWAY CATERIING AND TOURISM CORPORATION

INTRODUCTION:

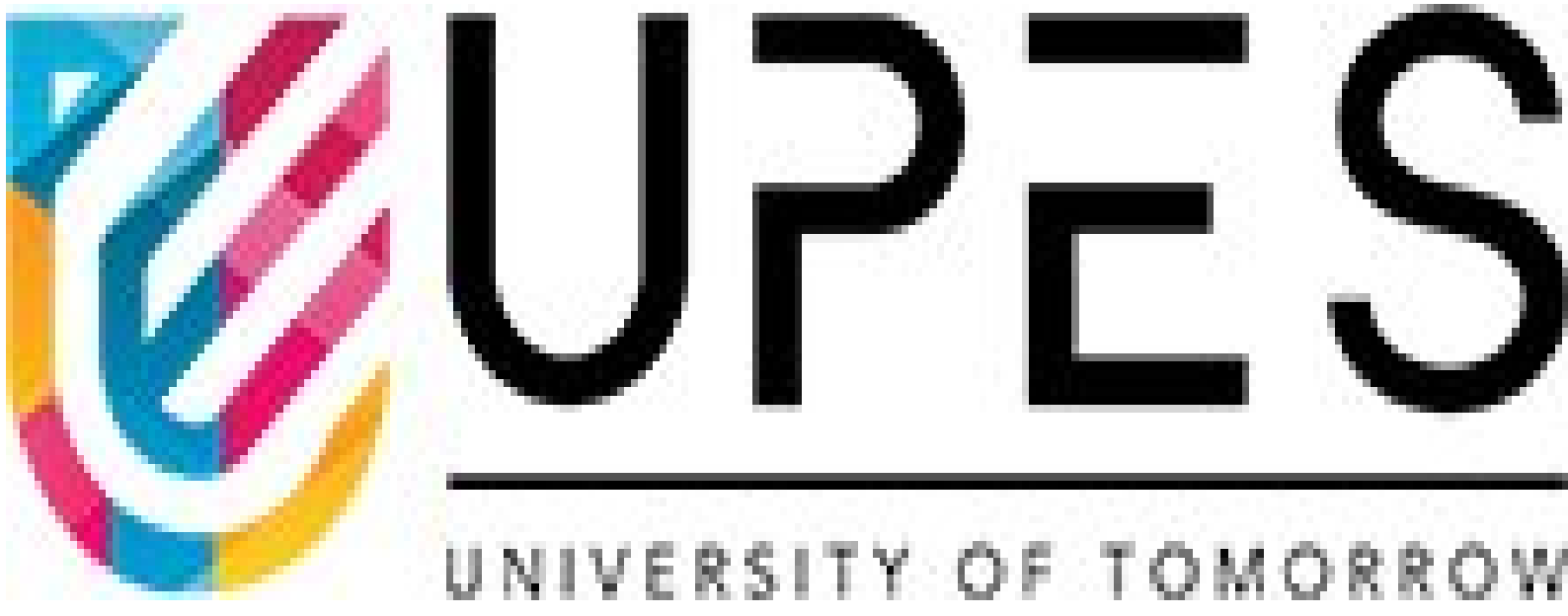
PROJECT Title: Train Ticket Reservation System

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 .

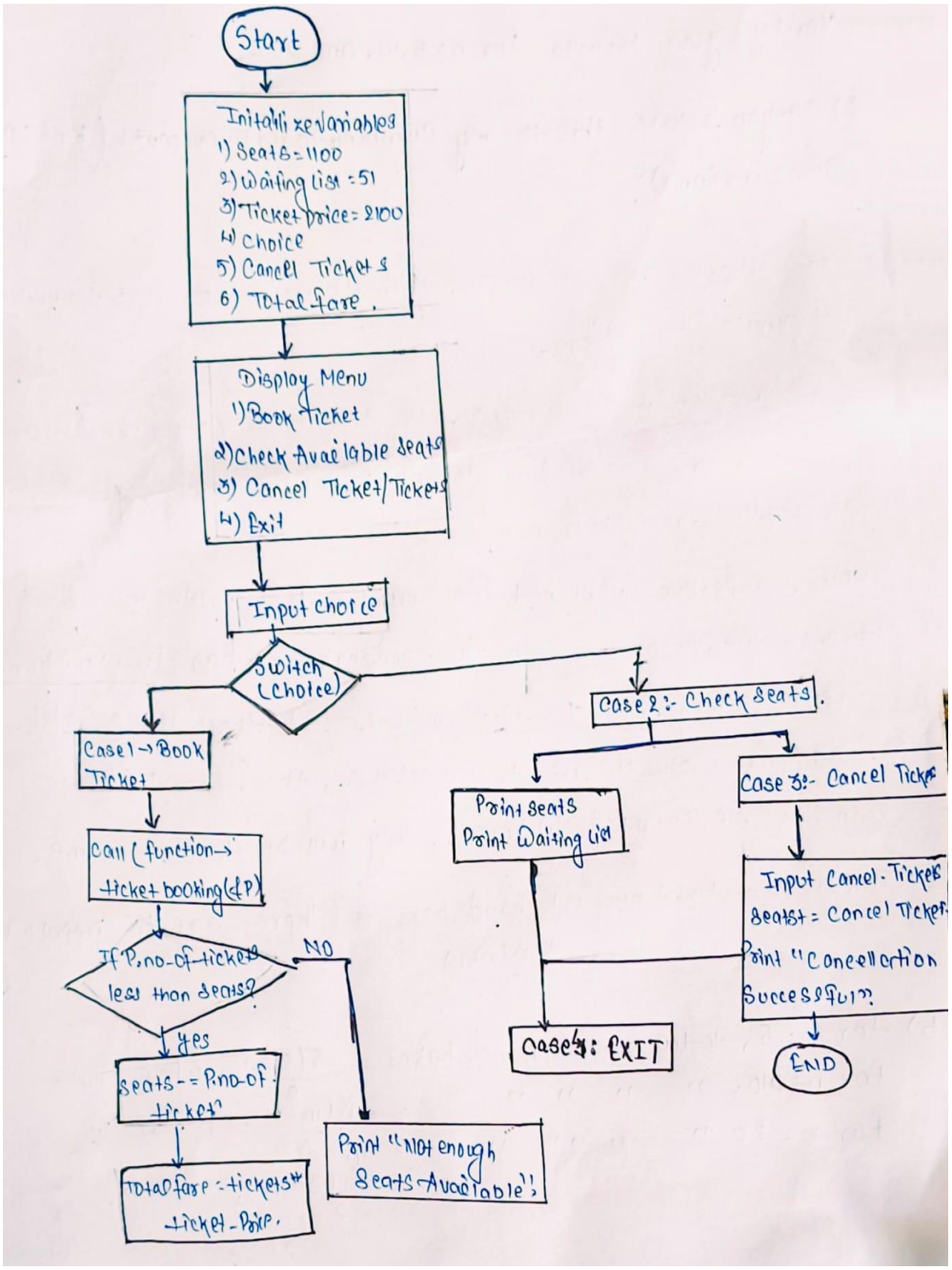
The goal of this project is to allow user to book train ticket by entering his/her information like their name , age , station for boarding the train to the destination , in which he train he want to book ticket and how much tickets he want to book and what will be the fare of his ticket/tickets. The 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 number 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 and he/she 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.

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 number;

char From[21];

Char To[21];

int number of tickets;

- IMPLEMENTAION 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
-) 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 availabilty 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 lop

  10) end

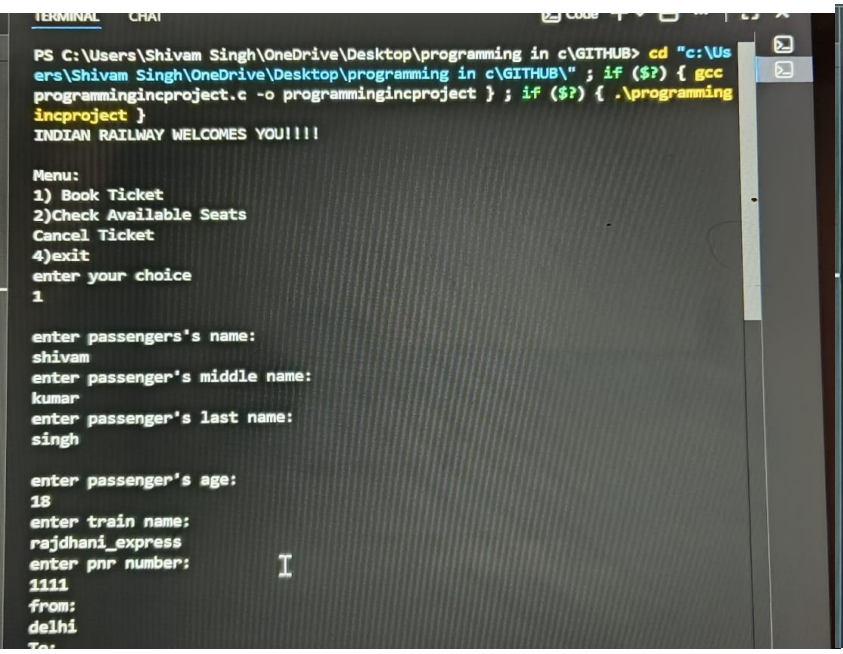
TESTING AND RESULTS:

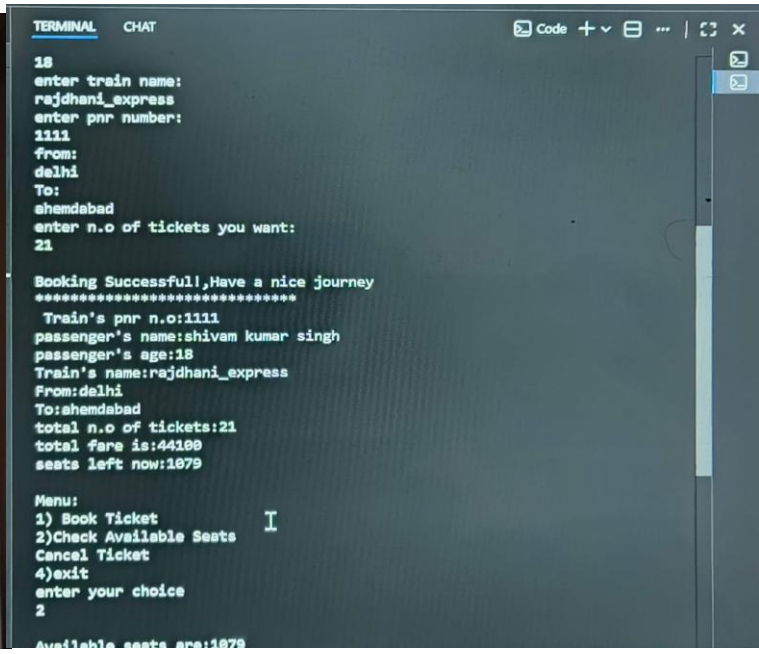
Test Case Examples:
1) Valid booking , seats available,Ticket Generated

2)Seats not available :Added to waiting list

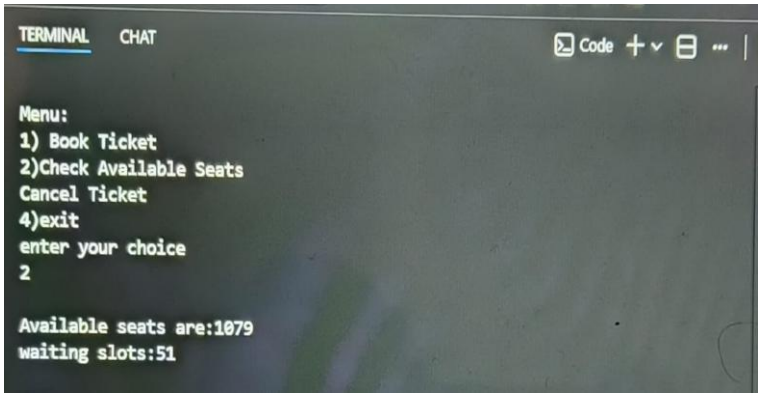
3)EXECUTION SCREENSHOTS:

CHOICE 1)

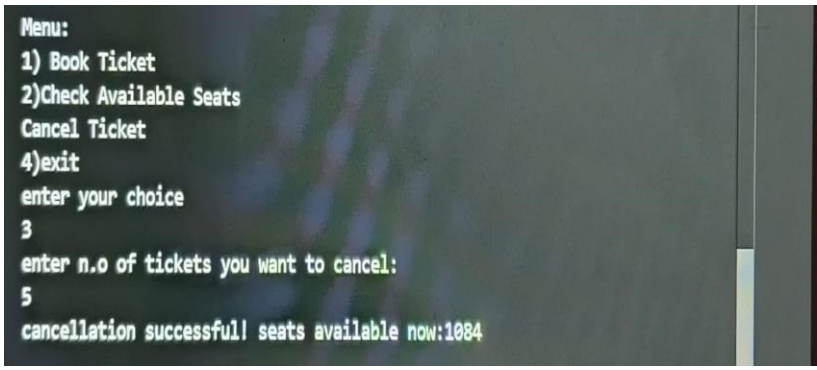




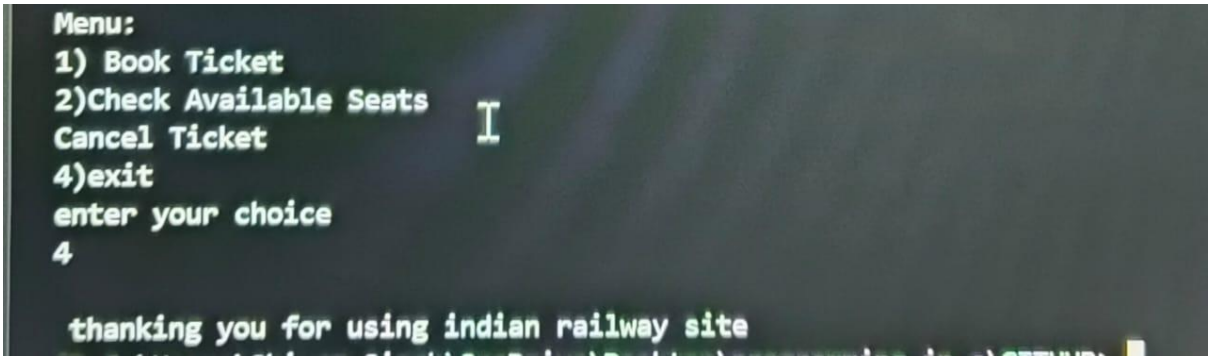
CHOICE 2)



CHOICE 3)



CHOICE 4)



APPENDIX

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

struct details{
    char passenger__first_name[51];
    char passenger_middle_name[21];
    char passenger_last_name[21];
    int Age;
    char train_name[21];
    int pnr_no;
    char From[52];
    char  To[52];
    int no_of_tickets;
};

void  ticket_booking(struct details *p){

    printf("\nenter passengers's name:\n");
    scanf("%50s",p->passenger__first_name);

    printf("enter passenger's middle name:\n");
    scanf("%20s",p->passenger_middle_name);

    printf("enter passenger's last name:\n");
    scanf("%20s",p->passenger_last_name);

    printf("\nenter passenger's age:\n");
    scanf("%d",&p->Age);
```

```c
void  ticket_booking(struct details *p){
    printf("\nenter passenger's age:\n");
    scanf("%d",&p->Age);


    printf("enter train name:\n");
    scanf("%20s",p->train_name);

   printf("enter pnr number:\n");
    scanf("%d",&p->pnr_no);

    printf("from:\n");
    scanf("%50s",p->From);

    printf("To:\n");
    scanf("%50s",p->To);

    printf("enter n.o of tickets you want:\n");
    scanf("%d",&p->no_of_tickets);

}


int main(){
    int choice;
    int seats=1100;
    int waiting_list=51;
    int ticket_price=2100;
```

```c
    int total_fare;
struct details p;
printf("INDIAN RAILWAY WELCOMES YOU!!!!\n");
do{
    printf("\nMenu:\n");
    printf("1) Book Ticket\n");
    printf("2)Check Available Seats\n");
    printf("Cancel Ticket\n");
    printf("4)exit\n");
    printf("enter your choice\n");
    scanf("%d",&choice);


    switch(choice){
        case 1: ticket_booking(&p);
        if(p.no_of_tickets<=seats) {
            seats-=p.no_of_tickets;
            total_fare =p.no_of_tickets*ticket_price;

        printf("\nBooking Successful!,Have a nice journey\n");
        printf("*******************************\n");
        printf(" Train's pnr n.o:%d\n",p.pnr_no);
        printf("passenger's name:%s %s %s\n",p.passenger__first_name,p.passenger_middle_na
        printf("passenger's age:%d\n",p.Age);
        printf("Train's name:%s\n",p.train_name);
        printf("From:%s\n",p.From);
        printf("To:%s\n",p.To);
```

```c
    printf("Train's name:%s\n",p.train_name);
    printf("From:%s\n",p.From);
    printf("To:%s\n",p.To);
    printf("total n.o of tickets:%d\n",p.no_of_tickets);
    printf("total fare is:%d\n",total_fare);
    printf("seats left now:%d\n",seats);

    }
    else if(p.no_of_tickets<=seats+waiting_list){
        int tickets_in_waiting=p.no_of_tickets-seats;
        waiting_list-=tickets_in_waiting;
        seats=0;
        printf("\nAll seats are filled,but %d tickets are in waiting list.\n",tickets_in_wai
        printf("you will get confirmation later.\n");
    }
    else{
        printf("\n not enough seats avialble bor booking nor waiting seats are available\n")

    }
    break;




    case 2: printf("\nAvailable seats are:%d\n",seats);
```

```c
        case 2: printf("\nAvailable seats are:%d\n",seats);
            printf("waiting slots:%d\n",waiting_list);
            break;

        case 3:printf("enter n.o of tickets you want to cancel:\n");
            scanf("%d",&cancel_tickets);
            seats+=cancel_tickets;
            printf("cancellation successful! seats available now:%d\n",seats);
            break;


            case 4:printf("\n thanking you for using indian railway site\n");
            break;
    default:printf("\n invalid choice! try again.\n");
    }
}while(choice!=4);
return 0;
}
```