

## Project Title: Bus Reservation System

Team Members:

Sl. No.	Student Name	Roll Number
1	Bestha Dhanush	200020009
2	Pochmireddy Nikhileswar Reddy	200010040
3	Rayavarapu Sai Krupakar	200010047
4	Chalumuri Sai Yeswanth	200010006

### Problem Statement:

Write a C program for the Bus ticket reservation system. The modules in the program:

- (a) User login. Welcome display with seat information.
- (b) Consider x number of seats , display row wise seat matrix.
- (c) Display free seats, booked seats and reserved seats. If a user tries to book a booked or a reserved seat, suitable messages should be displayed.
- (d) Note that only the admin can reserve seats. User must be able to book free seats only.
- (e) Once the seat booking is confirmed, a message with the user's name, date of journey, to and from, seat numbers, mobile number and amount should be displayed.
- (f) Either after the date of journey or if the user cancels booking, the admin has to set back or free the booked seats.
- (g) When the user cancels the ticket, the user must get refund information.

### Design Steps:

1. The main code has the definition and declaration of functions. Each function implements the features mentioned in the problem statement. After login it displays a welcome message "WELCOME TO SAFE DRIVE TRAVELS" along with the seat matrix. It will also provide some options as "RESTART(Only for admin)" , "VIEW BUS LIST" , "BOOK TICKETS" , "CANCEL TICKETS" , "LOG OUT". The user needs to select the appropriate option that he/she wants.

2. Function1 - After the welcome display the user will be asked to enter the login credentials

USERNAME:-.....

PASSWORD:-.....

Details of the users are stored in the text files USERNAMES.txt and PASSWORDS.txt.

If the entered login credentials are correct then the user will be directed to home page else a message "LOGIN IS UNSUCCESSFUL, INCORRECT USERNAME OR PASSWORD, PLEASE TRY AGAIN" will be displayed, and he/she will be asked for correct login credentials.

3. Function2 - If the user inputs choice 1(View Bus List) then the details of the bus will be displayed

NAME OF THE BUS :-.....

FROM :-.....

TO :-.....

ARRIVAL TIME :-.....

DEPARTURE TIME :-.....

After viewing the bus details user will be directed to home page.

4. Function3 - if the user inputs choice 2(Book Tickets) then the user will be asked to enter user's mobile number. Seat matrix of the bus along with No. of Vacant seats, Booked seats, Reserved Seats will be displayed. Now the user will be asked to select the No. of seats along with the seat numbers (for each person) that he /she wants to book. If the user selects the Booked or Reserved seats then the messages "THE SEAT SELECTED BY YOU IS ALREADY BOOKED/RESERVED" "PLEASE BOOK VACANT SEATS ONLY", "TRY AGAIN". After the user confirms the seat booking then the journey details and payment information will be displayed.

NAME :-.....

DATE OF JOURNEY :-.....

FROM :-.....

TO :-.....

ARRIVAL TIME :-.....  
 DEPARTURE TIME :-.....  
 SEAT NUMBERS :-.....  
 MOBILE :-.....

TOTAL BOOKING AMOUNT :-..... Seatstatus

(i.e Vacant/Booked/Reserved) will be stored in a file "bus.txt". Username and Seats booked by the user will be stored in "seatdata.txt". After successful completion of booking user will be directed to home page.

5. Function 4- If the user inputs choice 3(Cancel Tickets) then the user will be asked to enter the information regarding number of seats and seat numbers that he/she wanted to cancel. Now the seat status will be changed from booked to vacant in the file "bus.txt"(in the calle function).After entering the information the following messages will be displayed on the screen

NAME :-.....  
 DATE OF JOURNEY :-.....  
 FROM :-.....  
 TO :-.....  
 ARRIVAL TIME :-.....  
 DEPARTURETIME :-.....  
 CANCELLED SEATS :-.....  
 AMOUNT REFUNDED :-.....

SELECTED SEATS HAVE BEEN CANCELLED SUCCESFULLY

Now the file "seatdata cancelled.txt" will be opened and username , cancelled seats will be stored. If the user not booked any seat ,and tries to cancel any seat then the message "YOU HAVE NOT BOOKED ANY SEAT" will be displayed. After that user will be directed to home page.

Function 5- Cancel function calls the function 5(fun1).As mentioned above in function 4, Seat status will be changed from booked to vacant in the file "bus.txt" when the user cancels a seat.

6. Function 6- (Only available for admin) If the admin inputs choice 0(Restart) then all seats will be set back to vacant in the file "bus.txt". "seatdata.txt" and "seatdata cancelled.txt" will be cleared.Date of journey will be increased by 1 in the file "date.txt".

#### Additional Features:

7. Function 1 – New user can create his/her own login credentials by selecting 1.NEW USER at the beginning. This data will be stored in the files "USERNAMES.txt" and "PASSWORDS.txt". In the file "date.txt" variable 'u' will be decreased by 1. Now the new user will be asked to enter his login credentials for conformation and now he/she can book the tickets.
8. After the completion of user's task he/she can logout from the program by entering choice 4 in the home page.

#### Role of team members:

Student Name	Role
Chalumuri Sai Yeswanth	Implementing main code, function 5 implementation
Pochmireddy Nikhileswar Reddy	Implementing function 1, function 3 implementation,report writing
Rayavarapu Sai Krupakar	Implementing function 2, function 4 implementation
Bestha Dhanush	function 6 Implementation,Add on features,report writing

References: (sources referred for writing code, ideas for implementing additional features to be cited here)

- 1.Geeks for Geeks
- 2.Stack Overflow

## Results:

Fig 1 depicts asking if the user was new or existing.

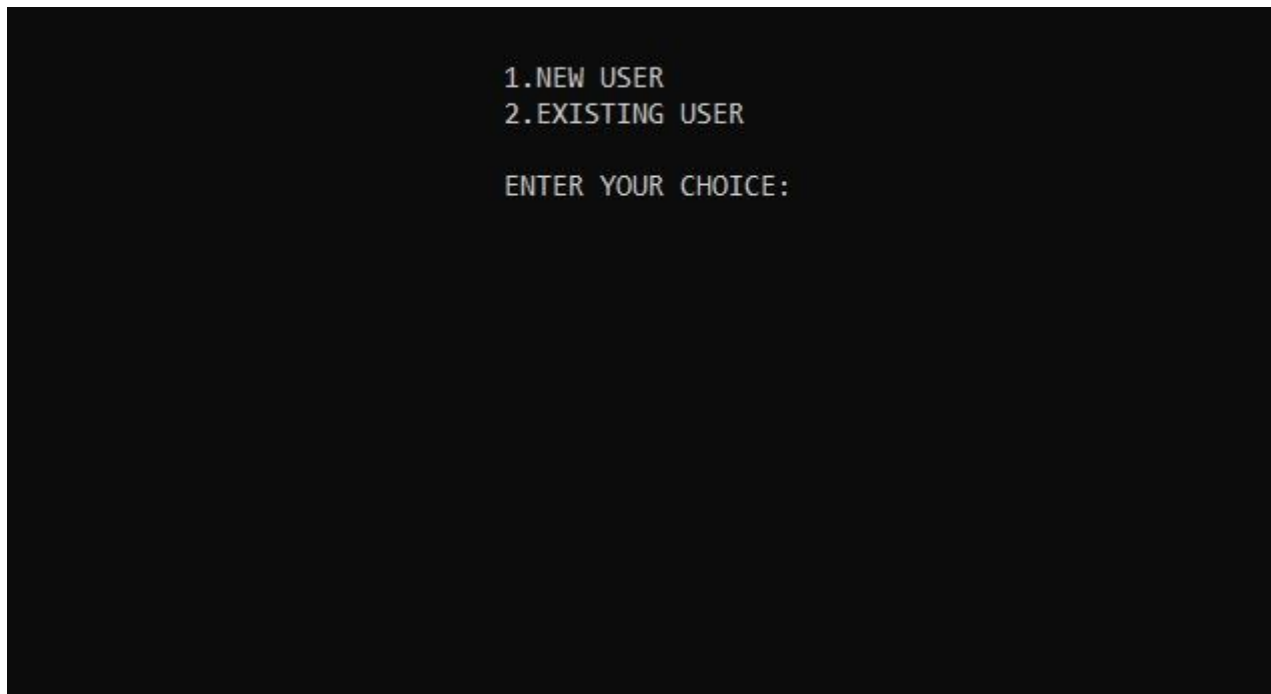


Fig 1

Fig 2 shows the welcome message and login for the existing user

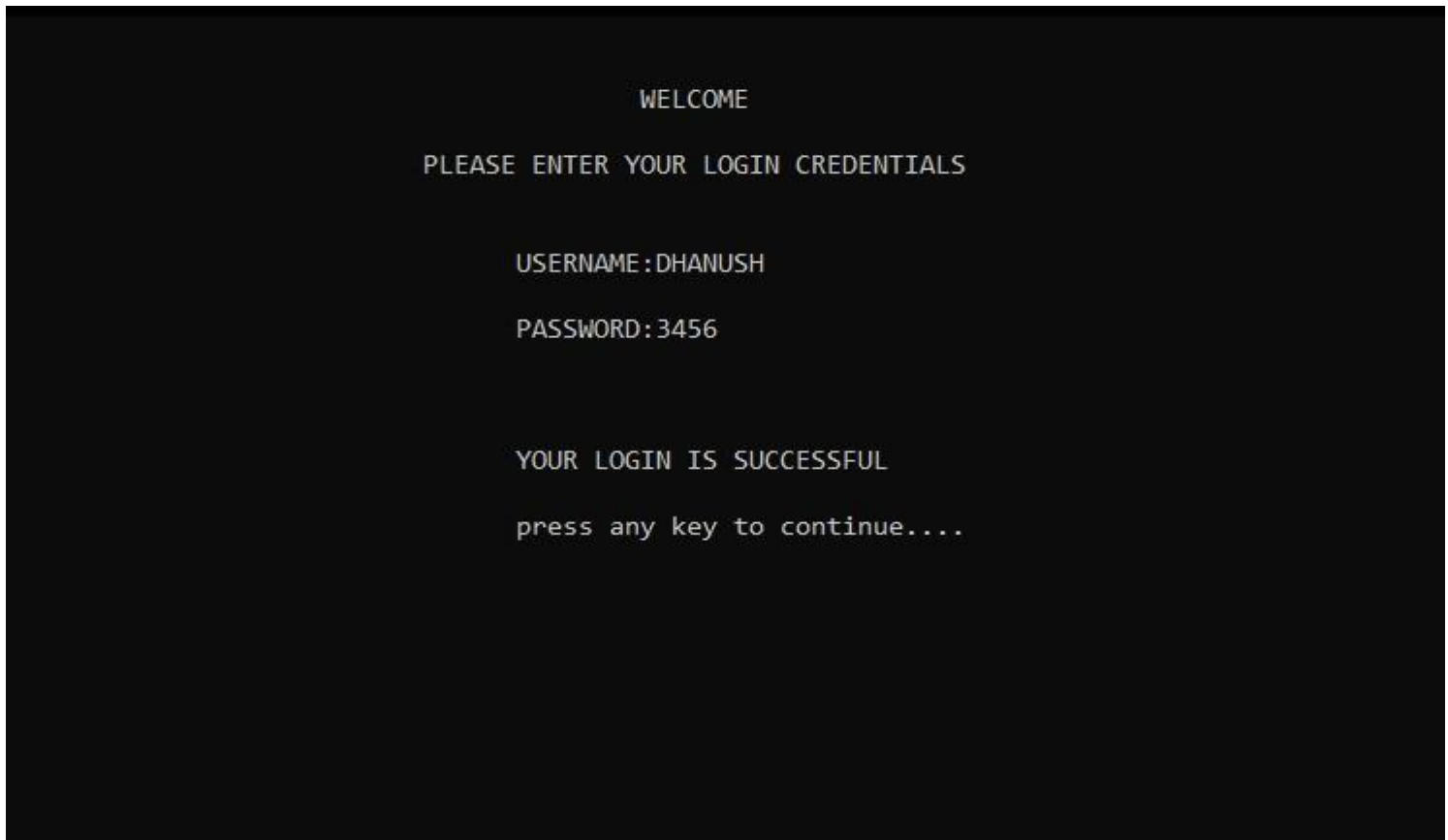
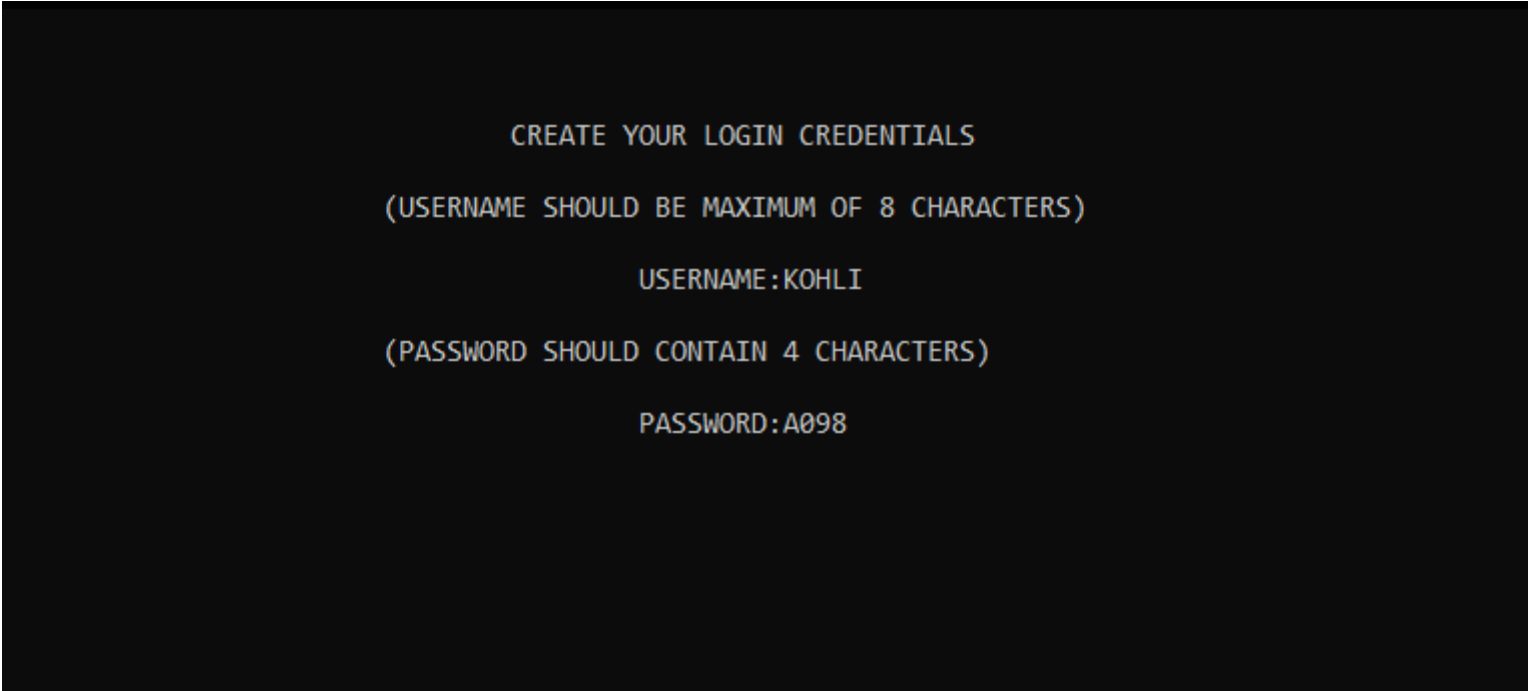


Fig 2

Fig 3 shows the new user creating login credentials



CREATE YOUR LOGIN CREDENTIALS  
(USERNAME SHOULD BE MAXIMUM OF 8 CHARACTERS)  
USERNAME: KOHLI  
(PASSWORD SHOULD CONTAIN 4 CHARACTERS)  
PASSWORD: A098

Fig 3

Fig 4 displays the message if the user inputs incorrect login credentials

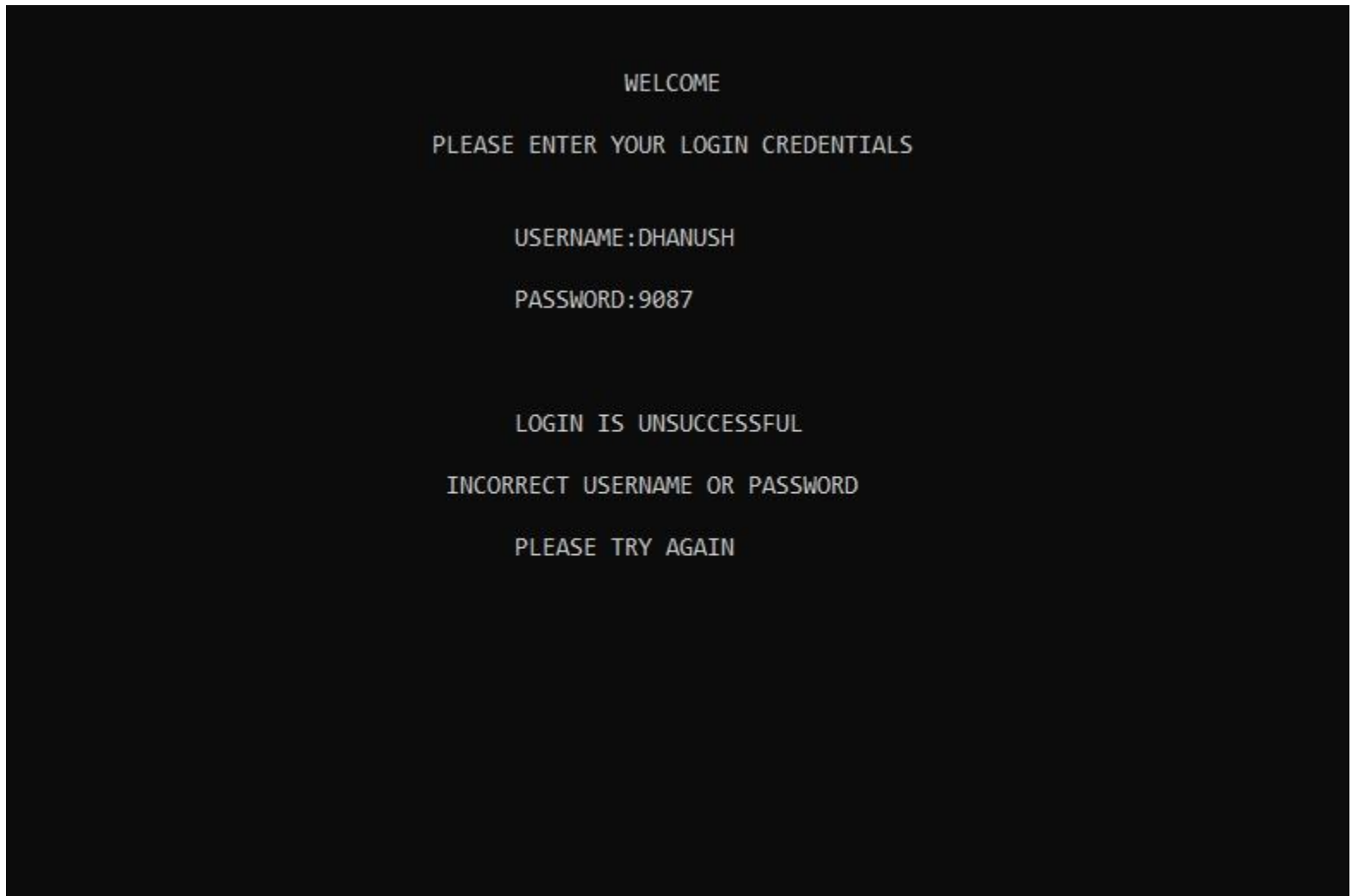


Fig 4



Fig 5 displays the welcome message, seat structure and available options for the user

```
WELCOME TO SAFE DRIVE TRAVELS

SEAT STRUCTURE IN OUR BUS

|Seat(0,0)|    |Seat(0,1)||Seat(0,2)|
|Seat(1,0)|    |Seat(1,1)||Seat(1,2)|
|Seat(2,0)|    |Seat(2,1)||Seat(2,2)|
|Seat(3,0)|    |Seat(3,1)||Seat(3,2)|
|Seat(4,0)|    |Seat(4,1)||Seat(4,2)|
|Seat(5,0)|    |Seat(5,1)||Seat(5,2)|
|Seat(6,0)|    |Seat(6,1)||Seat(6,2)|
|Seat(7,0)|    |Seat(7,1)||Seat(7,2)|
|Seat(8,0)|    |Seat(8,1)||Seat(8,2)|
|Seat(9,0)|    |Seat(9,1)||Seat(9,2)|

1.VIEW BUS LIST
2.BOOK TICKETS
3.CANCEL TICKETS
4.LOGOUT
ENTER YOUR CHOICE: ■
```

Fig 5

Fig 6 shows the bus details

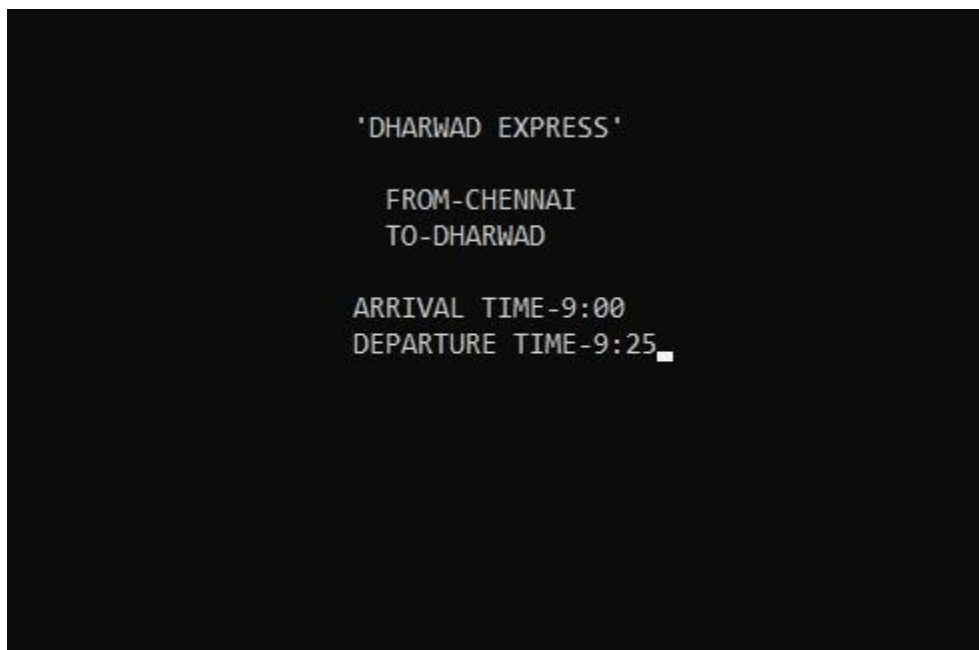


Fig 6

Fig 7 displays the seat status of the bus

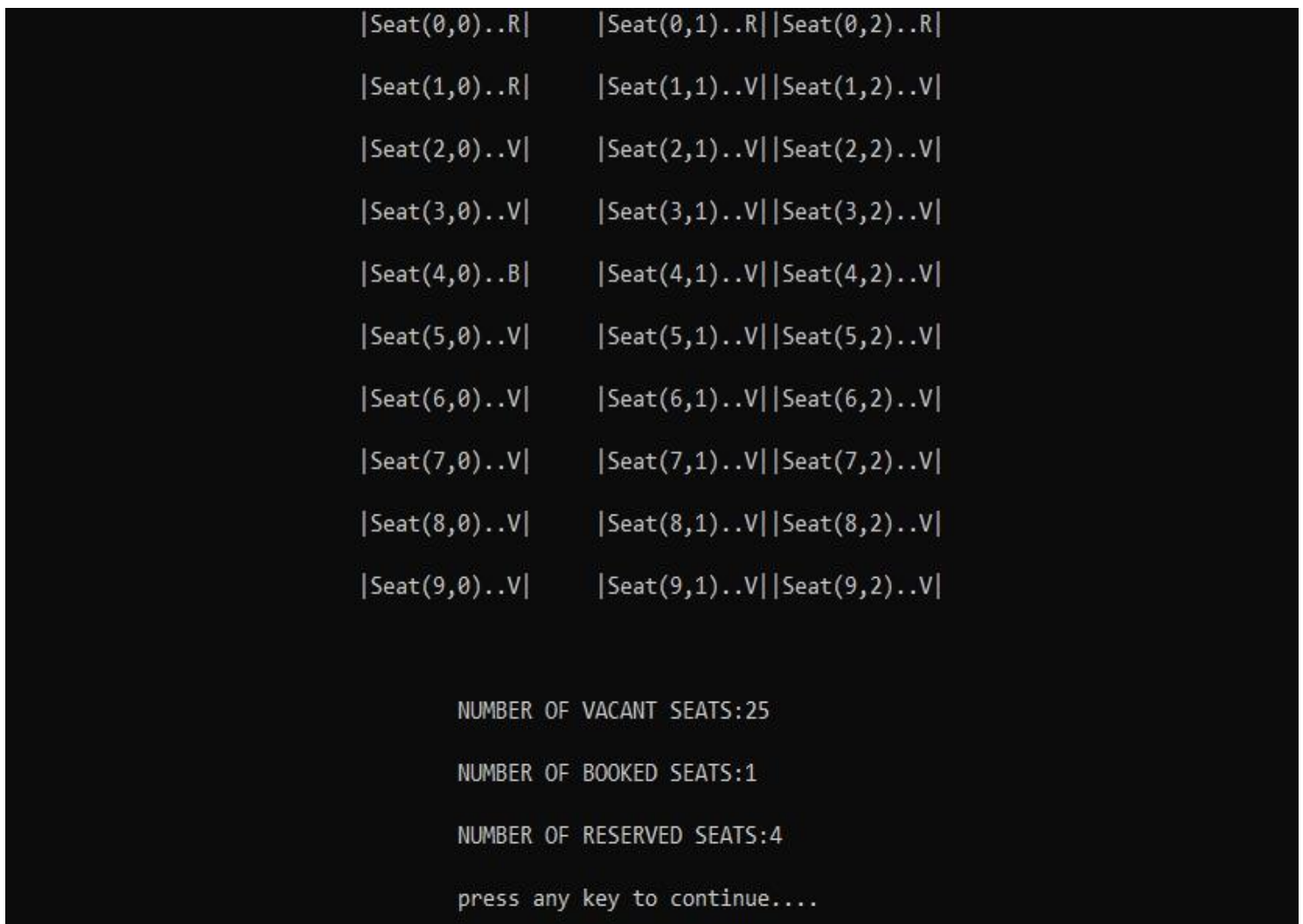


Fig 7

Fig 8 displays the appropriate messages if the user selects other than vacant seats.

```
PLEASE ENTER YOUR MOBILE NUMBER:9390566177

SELECT NUMBER OF SEATS :3

SELECT SEAT NUMBERS(in format [first number(space)second number]) :

SELECT SEAT FOR PERSON 1 :1 0

SELECTED SEAT FOR PERSON 1 : (1,0)

THE SEAT SELECTED BY YOU IS ALREADY RESERVED

PLEASE BOOK VACANT SEATS ONLY

TRY AGAIN

SELECT SEAT NUMBERS(in format [first number(space)second number]) :

SELECT SEAT FOR PERSON 1 :4 0

SELECTED SEAT FOR PERSON 1 : (4,0)

THE SEAT SELECTED BY YOU IS ALREADY BOOKED

PLEASE BOOK VACANT SEATS ONLY

TRY AGAIN

SELECT SEAT NUMBERS(in format [first number(space)second number]) :

SELECT SEAT FOR PERSON 1 :
```

Fig 8

Fig 9 shows the selected seats and confirmation message

```
SELECT NUMBER OF SEATS :3

SELECT SEAT NUMBERS(in format [first number(space)second number]) :

SELECT SEAT FOR PERSON 1 :8 0
SELECTED SEAT FOR PERSON 1 : (8,0)

SELECT SEAT FOR PERSON 2 :9 1
SELECTED SEAT FOR PERSON 2 : (9,1)

SELECT SEAT FOR PERSON 3 :8 2
SELECTED SEAT FOR PERSON 3 : (8,2)

YOUR SEAT SELECTION IS SUCCESSFULLY COMPLETED

1.CONFIRM
2.CANCEL

PRESS '1' TO CONFIRM YOUR SEAT OR '2' TO CANCEL YOUR SEAT:1

YOUR SEAT BOOKING IS CONFIRMED_
```

Fig 9

Fig 10 depicts the confirmed seat details and booking amount.

YOUR SEAT INFO IS HERE =>

NAME	:DHANUSH
DATE OF JOURNEY	:17/6/2021
FROM	:CHENNAI
TO	:DHARWAD
ARRIVAL TIME	:9:00
DEPARTURE TIME	:9:25
SEAT NUMBERS	:(8,0)(9,1)(8,2)
MOBILE	:9390566177
TOTAL BOOKING AMOUNT	:600

THANK YOU FOR CHOOSING US\_

Fig 10

Fig 11 shows the cancelled seat information and refund amount.

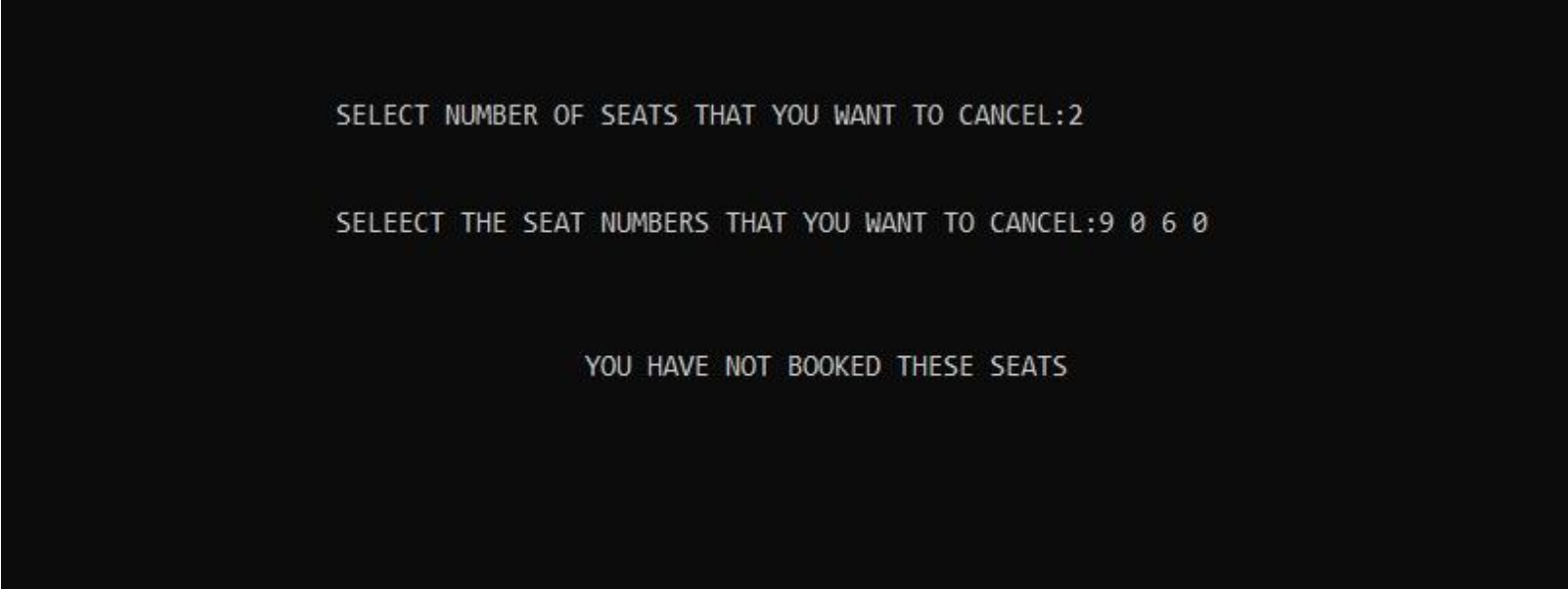
```
SELECT NUMBER OF SEATS THAT YOU WANT TO CANCEL:2

SELEECT THE SEAT NUMBERS THAT YOU WANT TO CANCEL:9 1 8 2
      NAME                :DHANUSH
      DATE OF JOURNEY      :17/6/2021
      FROM                 :CHENNAI
      TO                   :DHARWAD
      ARRIVAL TIME         :9:00
      DEPARTURE TIME       :9:25
      CANCELLED SEATS      :(9,1) (8,2)
      AMOUNT REFUNDED      :300

      SELECTED SEATS HAVE BEEN CANCELLED SUCCESSFULLY
```

Fig 11

Fig 12,13 displays the suitable message if the user tries to cancel the seats that are not booked by him/her.

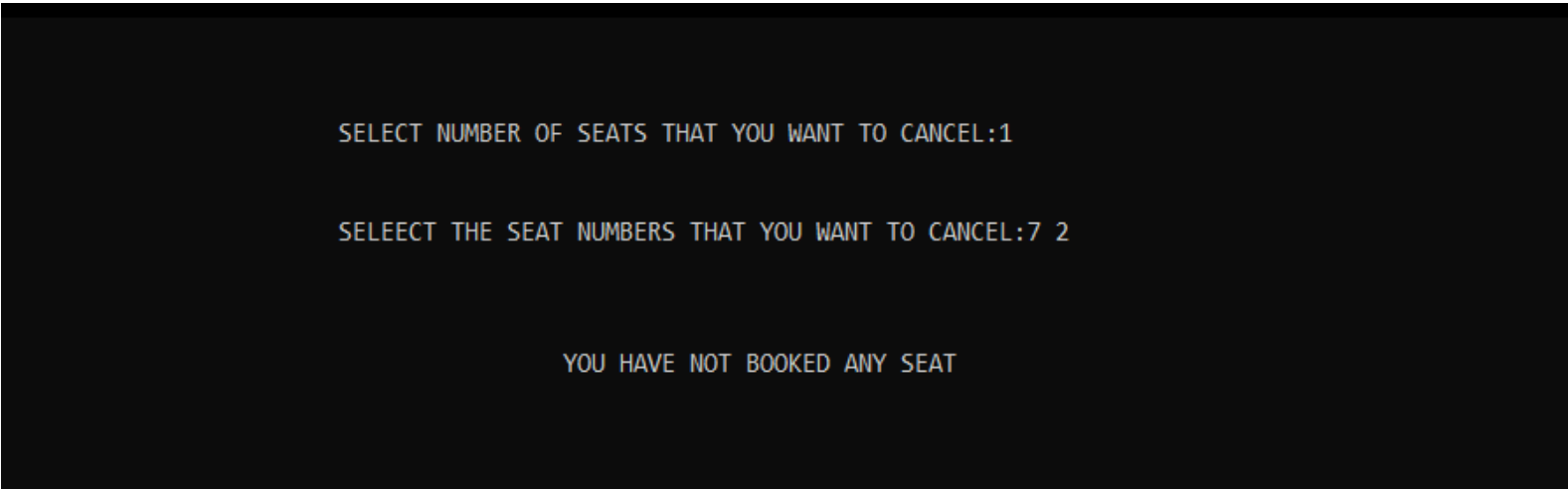
A screenshot of a terminal window with a black background and white text. The text is centered and consists of three lines. The first line asks for the number of seats to cancel, the second line asks for the seat numbers, and the third line states that the user has not booked the specified seats.

SELECT NUMBER OF SEATS THAT YOU WANT TO CANCEL:2

SELEECT THE SEAT NUMBERS THAT YOU WANT TO CANCEL:9 0 6 0

YOU HAVE NOT BOOKED THESE SEATS

Fig 12

A screenshot of a terminal window with a black background and white text. The text is centered and consists of three lines. The first line asks for the number of seats to cancel, the second line asks for the seat numbers, and the third line states that the user has not booked any seats.

SELECT NUMBER OF SEATS THAT YOU WANT TO CANCEL:1

SELEECT THE SEAT NUMBERS THAT YOU WANT TO CANCEL:7 2

YOU HAVE NOT BOOKED ANY SEAT

Fig 13


Figures shows the files used in the code

 USERNAMES - Notepad

File Edit Format View Help

NIKHIL DHANUSH KRUPAKAR YESWANTH KOHLI


File USERNAMES

 seatdata - Notepad

File Edit Format View Help

NIKHIL 4 0,  
DHANUSH 8 0 9 1 8 2,


File seatdata

 PASSWORDS - Notepad

File Edit Format View Help

2345 3456 4567 5678 A098

File PASSWORDS

 seatdata cancelled - Notepad

File Edit Format View Help

DHANUSH 9 1 8 2

File seatdata cancelled



bus - Notepad

File Edit Format View Help

Seat(0,0)..R	Seat(0,1)..R	Seat(0,2)..R
Seat(1,0)..R	Seat(1,1)..V	Seat(1,2)..V
Seat(2,0)..V	Seat(2,1)..V	Seat(2,2)..V
Seat(3,0)..V	Seat(3,1)..V	Seat(3,2)..V
Seat(4,0)..B	Seat(4,1)..V	Seat(4,2)..V
Seat(5,0)..V	Seat(5,1)..V	Seat(5,2)..V
Seat(6,0)..V	Seat(6,1)..V	Seat(6,2)..V
Seat(7,0)..V	Seat(7,1)..V	Seat(7,2)..V
Seat(8,0)..B	Seat(8,1)..V	Seat(8,2)..V
Seat(9,0)..V	Seat(9,1)..V	Seat(9,2)..V

File bus

date - Notepad

File Edit Format View Help

17 6 2021 -4

File date



THANK YOU