

FINAL PROJECT

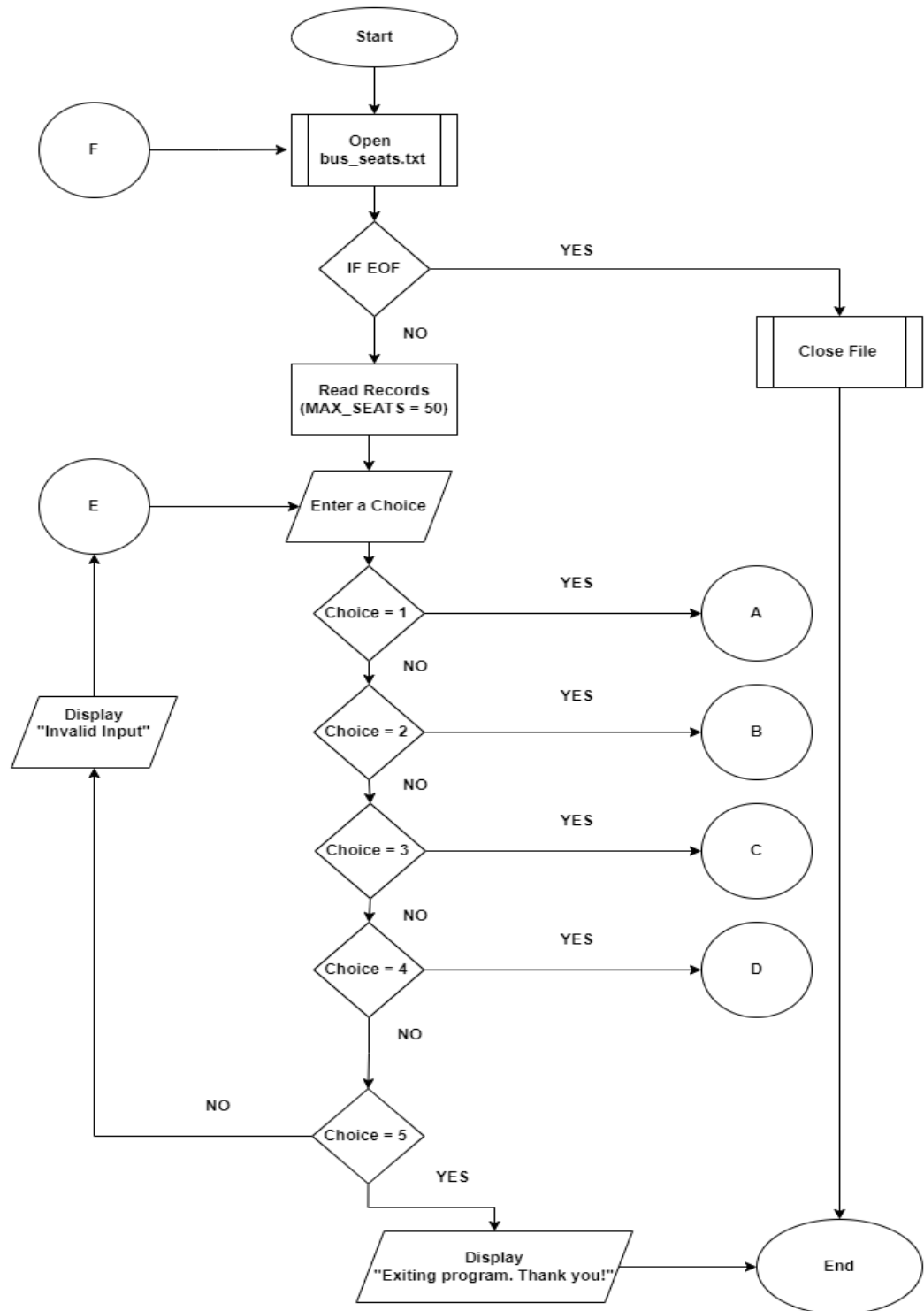
Bus Seat Booking System

COM 1407 and COM 1201

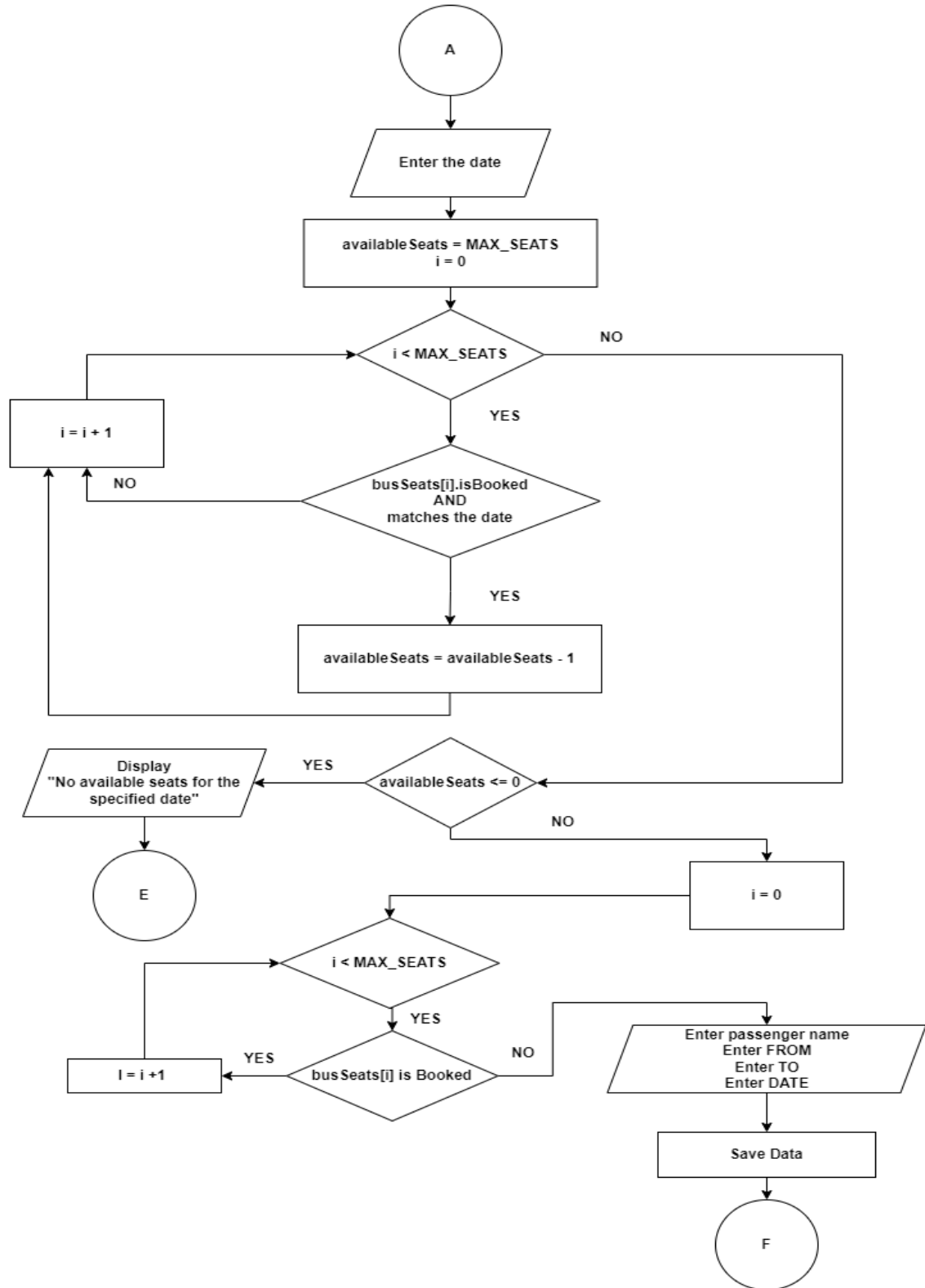
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Bus Seat Booking System – Flow Chart

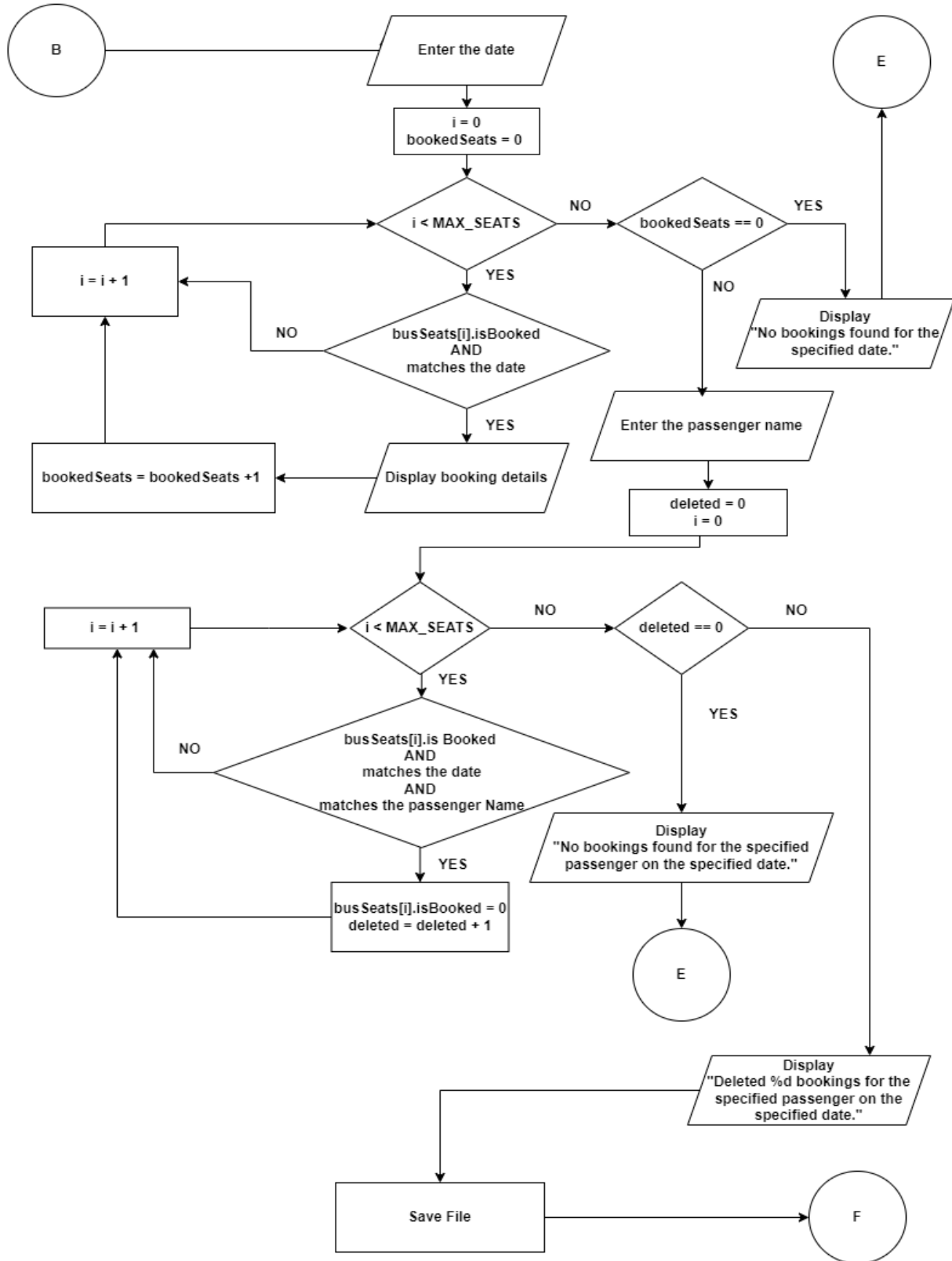
Main Function



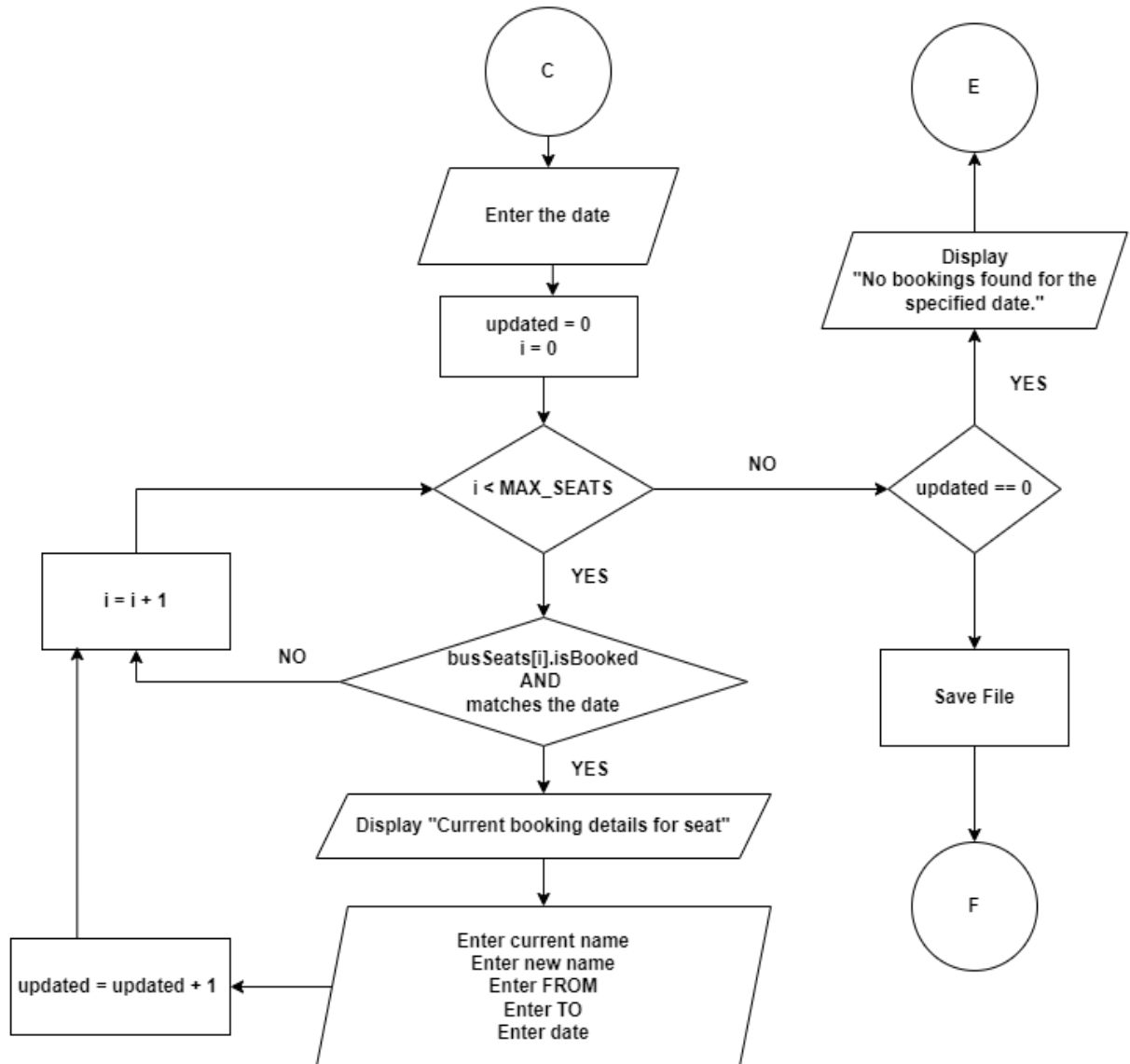
Booking a Seat Function



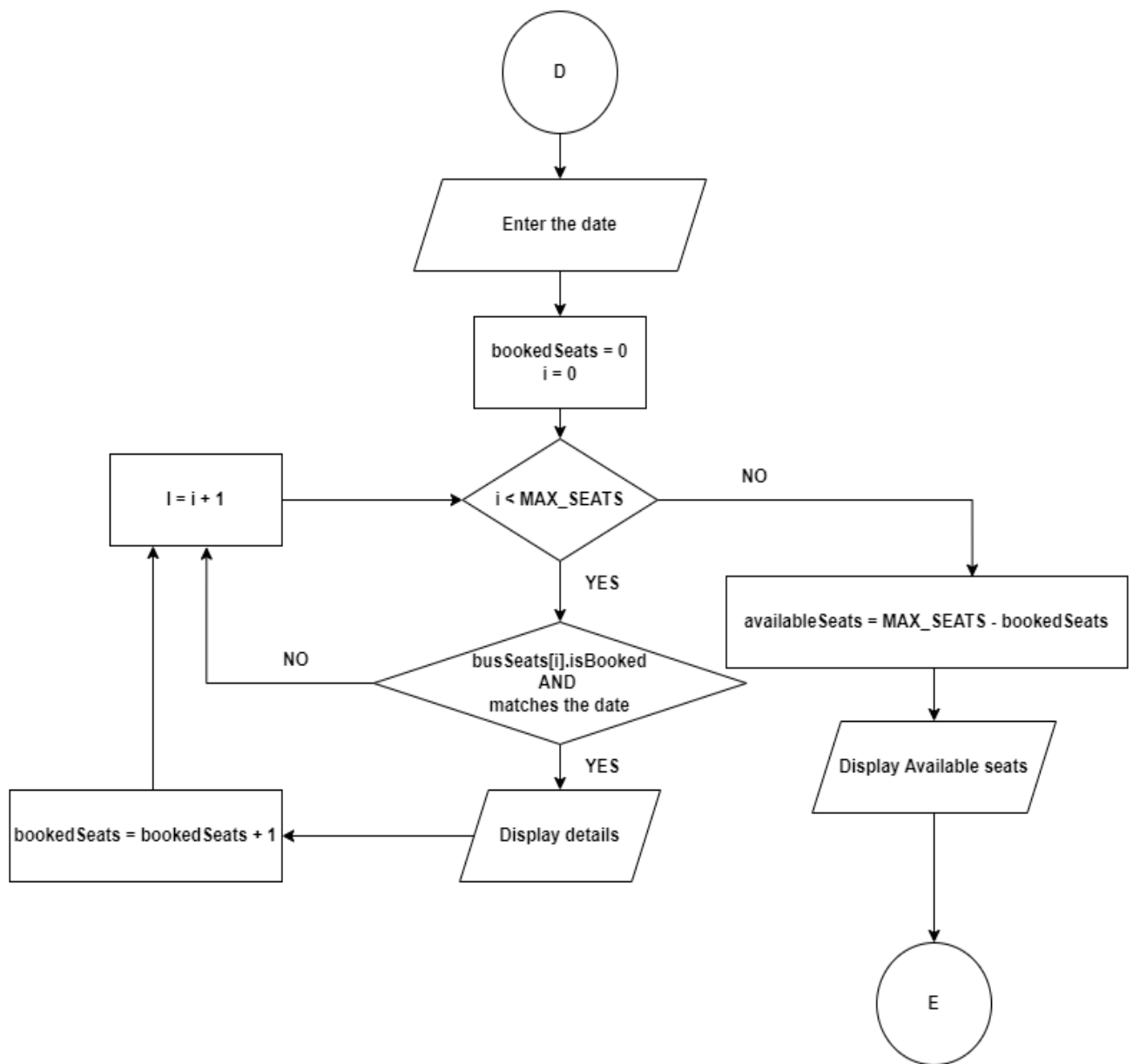
Delete Booking Function



Update Booking Function



Display Booked Seats Function



Bus Seat Booking System – Pseudo Code

Start

Declare constants MAX_SEATS as integer.

Define structure Seat with members:

 seatNumber as integer.

 passengerName as string.

 isBooked as integer.

 from as string.

 to as string.

 date as string.

Declare array busSeats of type Seat with size MAX_SEATS

Define function initializeSeats():

 For each seat in busSeats:

 Set seatNumber to index + 1

 Set isBooked to 0

Define function loadSeatsFromFile():

 Open "bus_seats.txt" file for reading.

 If file is not NULL:

 Read data from file into busSeats array.

 Close file.

Define function saveSeatsToFile():

 Open "bus_seats.txt" file for writing

 If file is not NULL:

 Write data from busSeats array to file.

 Close file.

Define function bookSeat():

 Prompt user to enter date.

 Count availableSeats as MAX_SEATS

For each seat in busSeats:

 If seat is booked and matches input date:

 Decrease availableSeats by 1

If availableSeats <= 0:

 Display "No available seats for the specified date."

 Return

For each seat in busSeats:

 If seat is not booked:

 Prompt user to enter passenger name, from, to

 Set date to input date, isBooked to 1

 Display "Seat booked successfully."

 Call saveSeatsToFile()

 Break

Define function deleteBooking():

 Prompt user to enter date.

 Count bookedSeats as 0

 Display booked seats for the specified date.

 For each seat in busSeats:

 If seat is booked and matches input date:

 Display seat number and passenger name.

 Increase bookedSeats by 1

 If bookedSeats is 0:

 Display "No bookings found for the specified date."

 Return

 Prompt user to enter passenger name to delete booking for

 Count deleted as 0

 For each seat in busSeats:

 If seat is booked, matches input date, and passenger name matches:

Set isBooked to 0

Increase deleted by 1

If deleted is 0:

Display "No bookings found for the specified passenger on the specified date."

Else:

Display "Deleted X bookings for the specified passenger on the specified date."

Call saveSeatsToFile()

Define function updateBooking():

Prompt user to enter date.

Count updated as 0

For each seat in busSeats:

If seat is booked and matches input date:

Display current booking details.

Prompt user to enter new passenger name, from, to

Display "Booking updated successfully."

Increase updated by 1

If updated is 0:

Display "No bookings found for the specified date."

Else:

Call saveSeatsToFile()

Define function displayBookedSeats():

Prompt user to enter date

Count bookedSeats as 0

Display booked seats for the specified date

For each seat in busSeats:

If seat is booked and matches input date:

Display seat number, passenger name, from, to

Increase bookedSeats by 1

Calculate availableSeats as MAX_SEATS minus bookedSeats.

Display "Available seats for the specified date: availableSeats."

Define main function:

Call initializeSeats()

Call loadSeatsFromFile()

Display welcome message.

Display bus details.

Declare choice as integer.

Repeat until choice is 5:

Display menu options.

Prompt user to enter choice.

Switch on choice:

Case 1: Call bookSeat()

Case 2: Call deleteBooking()

Case 3: Call updateBooking()

Case 4: Call displayBookedSeats()

Case 5: Display "Exiting program. Thank you!"

Default: Display "Invalid choice. Please try again."

Return 0

Stop