

**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY-**  
**KATTANKULATHUR**

**18 CSS101J**

**PROGRAMMING FOR PROBLEM SOLVING.**

MINI PROJECT-

**AIRLINE RESERVATION SYSTEM**

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## **ABSTRACT**

To make this program the language we opted is C. This program aims at the reservation and booking of flight tickets, ticket summary and passenger details will also be accessed.

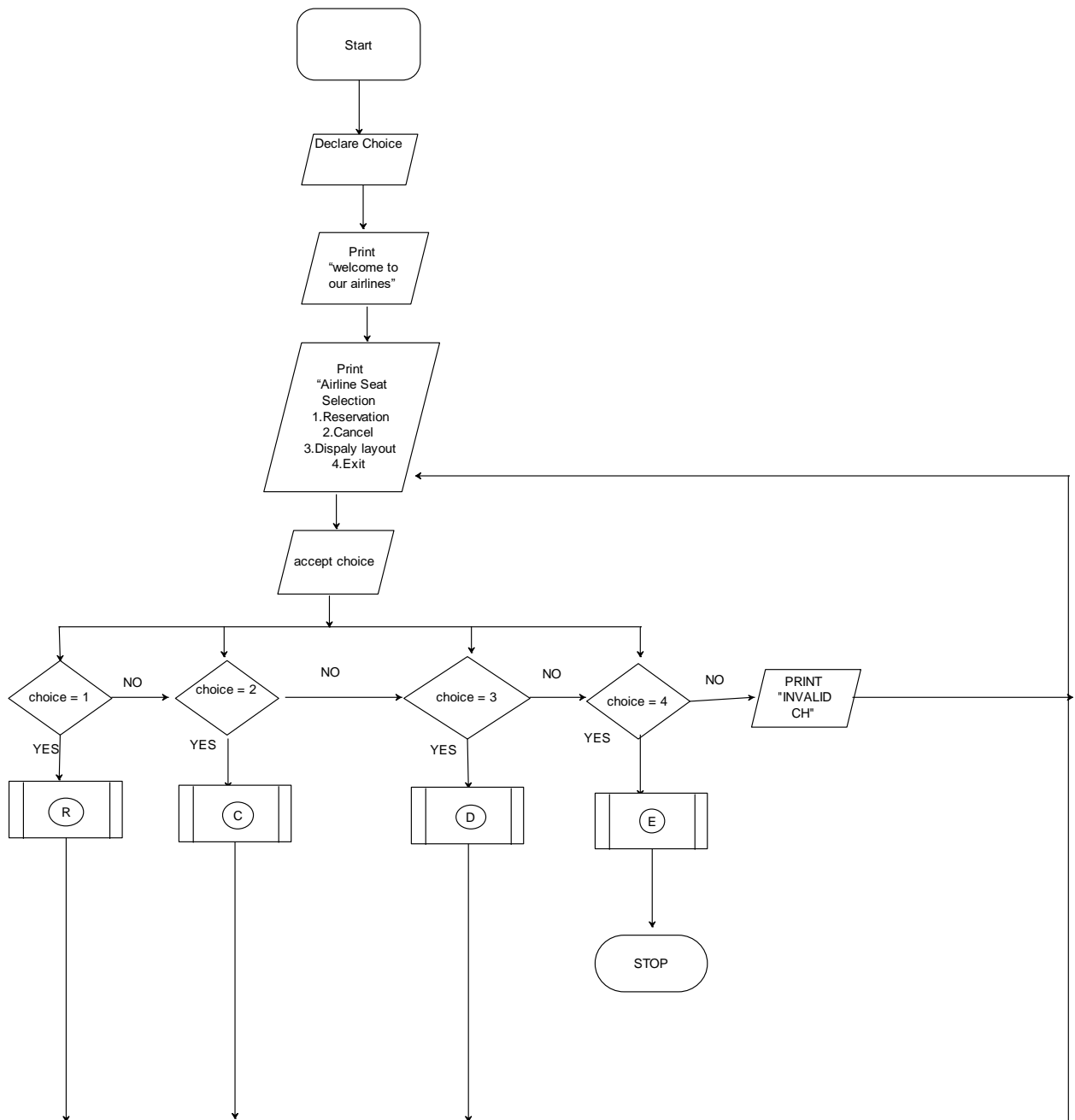
We have opted this topic because of our sheer interest in the field of aeronautics. The future is all about air travel, today we are witnessing fast advancement in the field of aeronautics. Each and every day new updates are been added to this field. We made this program as our first step to be a part of this new advancement.

A small airline has just purchased a computer for its new automated reservation system. The owner has asked to program the new system in C. It is required to write a program to assign seats on each flight of the airlines only place (capacity: 15 seats). The program should never assign a seat which is already assigned. If there's no seat available, then print the message " the flight is full ".

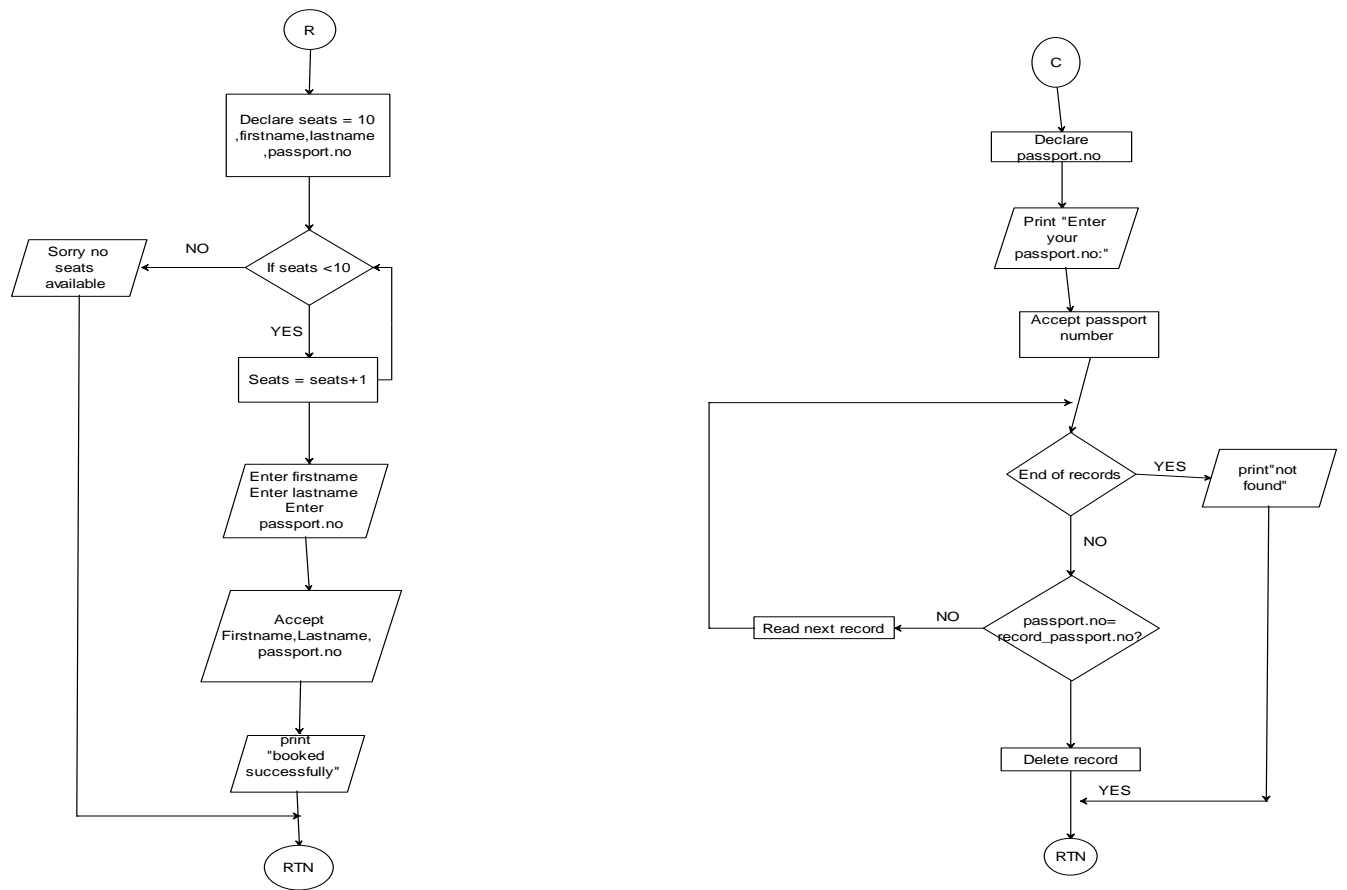
After the flight is full and someone want to cancel the booking, it is displaying enter you're the passport number you want to cancel it so after the passenger cancel it, the system directly free that place id someone want to book that seat.

Moreover, the system should bring a boarding pass indicating the persons' name, passport number and seat number as each seat is assigned, set the corresponding elements of array to 1 to indicate that seat is no longer available.

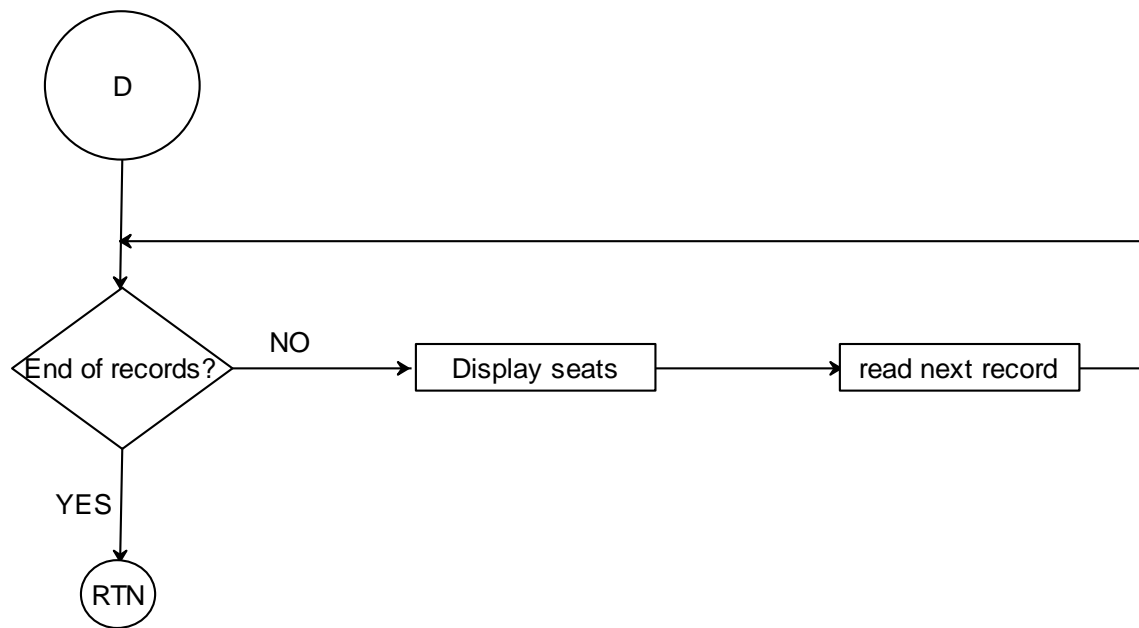
# FLOW CHART



This is the flowchart for main menu



That is the flowchart for the reservation and cancel functions



That is the flowchart for the displaying function

## **PSEUDOCODE**

Begin

    Declare Choice Repeat

    repeat

    display "welcome to our airlines"

    display "Airline Seat Selection

    1.Reservathion

    2.Cancel

    3.Dispaly layout

    4.Exit

    Enter your choice"

    Accept choice

    If (choice = 1)

        Call R ()

    Else

        If (choice = 2)

            Call C ()

        Else

            If (choice = 3)

                Call D ()

            Else

                If (choice = 4)

                    Call E ()

                Else

                    Print "Invalid choice"

            End-If

        End-If

    End-If

End-If

Until (choice <> 4)

End

Function reservation ()

    Declare passport number, name, num, email, contact number

    Print "Enter your passport number"

    Accept passport number

Print "Enter your name"

Accept name

Print "Enter your email "

Accept email

Print "Enter your contact number"

Accept contact number

IF (seats >15)

Print No Seats Available

ELSE

IF

(Seats <=15)

Print "registered successfully"

END-IF

END-IF

END-FOR

Return

Function Cancel ()

Declare Passport number

Print "Enter passport number to delete record"

Accept passport number

Do while (not end of records)

IF (passport = record \_passport)

Delete record

Return

END-IF

Read next record

END-do

print

Return

Function Display layout ()

Do while (not end of records)

Display Record

Read next record

End -do

Return



```
#include<stdio.h>
#include<stdlib.h>
#include<conio.h>
#include<string.h>
#include<Windows.h>
struct mufti_airline (Structures are used to represent a record)
{
    char passport[6]; (Declaring)
    char name[15];
    int seat_num;
    char email[15];
    struct mufti_airline *following;
}
*begin, *stream;
struct mufti_airline *dummy;
void main() (is the special function in C from where execution of
a program starts and end).
{
    void reserve(int x), cancel(), display(), savefile();
    int choice;
    begin = stream = NULL; //initialize the struct pointers to
NULL
    int num = 1;
    do
    {
        (Printing the menu )
        printf("\n\n\t\t
*****");
        printf("\n\t\t welcome to mufti's
airline system ");
        printf("\n\t\t
*****");
    };
    printf("\n\n\n\t\t Please enter your choice from below
(1-4):");
    printf("\n\n\t\t 1. Reservation");
    printf("\n\n\t\t 2. Cancel");
    printf("\n\n\t\t 3. DISPLAY RECORDS");
    printf("\n\n\t\t 4. EXIT");
    printf("\n\n\t\t feel free to ask us");
    printf("\n\n\t\t Enter your choose ");
```

```
scanf("%d", &choice); fflush(stdin);
system("cls"); (cls" is a command on some operating
systems that clears the screen
```

```
switch (choice) (Each value is called a case, and the
variable being switched on is checked for each switch case)
```

```
{
case 1:
    reserve(num);
    num++;          (to increment the seats by
                    adding 1 every time)
    break;          (we find the answer do not need to
                    test it anymore)
```

```
case 2:
    cancel();
    break;
```

```
case 3:
    display();
    break;
```

```
case 4:
{
    savefile();
    break;
```

```
}
Default: (every switch case has to have default after 4
just stop it is invalid choice)
```

```
printf("\n\n\t SORRY INVALID CHOICE!");
printf("\n\n\t PLEASE CHOOSE FROM 1-4");
printf("\n\n\t Do not forget to chose from 1-4");
```

```
}
getch();      (It forces to wait the output to stay on
screen
                until any key pressed from keyboard)
```

```
} while (choice != 4);      (coz we have 4 cases so when if it
more
                            than 4 give default)
```

```
}
void details()
{
    (it is asking the user to input the details)
    printf("\n\t Enter your passport number:");
    gets(stream->passport); fflush(stdin); //reads a line from
stdin and stores it into the string pointed
    printf("\n\t Enter your name:");
    gets(stream->name); fflush(stdin);
    printf("\n\t Enter your email address:");
    gets(stream->email); fflush(stdin);
```

```
}
```

```

void details();

void reserve(int x) (int x the reservation part is only for 15 seats
so I use x instead of 15 because if I want to change the seat number
I will change only x)
{
    stream = begin; (this is for first user want to register)
    if (begin == NULL)
    {
        // first user
        begin = stream = (struct
mufti_airline*)malloc(sizeof(struct mufti_airline));
        (memory allocation/ allocates the requested memory and returns a
pointer to it)

        details();
        stream->following = NULL; (checking if the next node is
empty book it )
        printf("\n\t Seat booking successful!");
        printf("\n\t your seat number is: Seat A-%d", x);
        stream->seat_num = x; (same as I mentioned up x for
seats number up to 15 seats )
        return; (go back)
    }
    else if (x > 15) // FULL SEATS
    {
        printf("\n\t\t Seat Full.");
        return;
    }
    else
    {
        ( it is registering the
next users )
        // next user
        while (stream->following)
            stream = stream->following;
        stream->following = (struct mufti_airline
*)malloc(sizeof(struct mufti_airline));
        stream = stream->following;
        details();
        stream->following = NULL;
        printf("\n\t Seat booking succesful!");
        printf("\n\t your seat number is: Seat A-%d", x);
        stream->seat_num = x;
        return;
    }
}

void savefile()
{
    FILE *fpointer = fopen("mufti records", "w");

```

```

                                                                    (where I store
the
                                                                    records in mufti record file)(opening the
file)
    if (!fpointer)
    {
        printf("\n Error in opening file!");
        return;
        Sleep(800); (delays program execution for a given number
of seconds)
    }
    stream = begin;
    while (stream)
    {
        fprintf(fpointer, "%-6s", stream->passport);
        fprintf(fpointer, "%-15s", stream->name);
        fprintf(fpointer, "%-15s", stream->email);
        stream = stream->following;
    }
    printf("\n\n\t Details have been saved to a file (mufti
records)");
    fclose(fpointer); (closing the file)
}
void display()          (it is displaying the all the records that I
registered)
{
    stream = begin;
    while (stream)
    {
        printf("\n\n Passport Number : %-6s", stream->passport);
        printf("\n          name : %-15s", stream->name);
        printf("\n          email address: %-15s", stream->email);
        printf("\n          Seat number: A-%d", stream->seat_num);

        printf("\n\n++*=====
=====*++");
        stream = stream->following;      (it is displaying one by
one up to 15 seats)
    }
}
void cancel()
{
    stream = begin;      ( deleting the first user)
    system("cls");
    char passport[6];
    printf("\n\n Enter passport number to delete record?:");
    (asking for the passport you want to delete)
    gets(passport); fflush(stdin);
    if (strcmp(begin->passport, passport) == 0)

```

```

{
    dummy = begin;
    begin = begin->following;
    free(dummy);    ( it is freeing the place)
    printf(" booking has been deleted");
    Sleep(800);
    return;
}

while (stream->following)          ( deleting the other
records)
{
    if (strcmp(stream->following->passport, passport) == 0)
    {
        dummy = stream->following;
        stream->following = stream->following->following;
        free(dummy);
        printf("has been deleted ");
        getch();
        Sleep(800);
        return;
    }
    stream = stream->following;
}
printf("passport number is wrong please check your passport");
(if user enter wrong passport number)
}

```

# OUTPUT

```
*****
welcome to mufli's airline system
*****

Please enter your choice from below (1-4):

1. Reservation
2. Cancel
3. DISPLAY RECORDS
4. EXIT

feel free to ask us

Enter your choose _
```

## MAIN MENU

```
SORRY INVALID CHOICE!

PLEASE CHOOSE FROM 1-4

Do not forget to chose from 1-4
```

```
Enter your passport number:1

Enter your name:1

Enter your email address:1
```

## INPUT DATA

```
Enter your passport number:1  
Enter your name:1  
Enter your email address:1  
Seat booking successful!  
your seat number is: Seat A-1
```

```
Enter your passport number:1n  
Enter your name:n  
Enter your email address:n  
Seat booking succesful!  
your seat number is: Seat A-15_
```

THE MAXIMUM NUMBER OF SEATS THAT CAN BE FILLED IS 15

```
Seat Full._
```

LATER YOU CAN REVIEW THE PASSENGER LIST AND DELETE THE RECORD OF ANY PASSENEGER AFTER ENTERING THEIR DETAILS