

**PSP [20ES104] COURSE PROJECT REPORT On**

**AIRLINE RESERVATION SYSTEM**

Developed By:

H.T.NO STUDENT NAME

2203A51023 N. Divya sree

2203A51034 V.Bharrgawee

2203A51007 D. Nagaraju

2203A51673 G.Varun

2205A41008 G.Anvesh

Under the Guidance of

Dr. P PRAVEEN

Associate Professor

Submitted to

Department Computer Science and Artificial Intelligence

SR University

Ananthasagar(V), Hasanparthy(M), Hanamkonda(Dist.) – 506371

www.sru.edu.in

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**Department of Computer Science and Artificial Intelligence**

**CERTIFICATE**

This is to certify that the PSP course project report entitled **“ Airline Reservation System”** is a record of bonafide work carried out by the student(s) N.Divya Sree, V.Bharrgawee , D.Ragaraju, G.Varun & G.Anvesh bearing roll number(s) 2203A51023, 2203A51034, 2203A51007, 2203A51673, 2205A41008 of Computer Science and Artificial Intelligence department during the academic year 2022-23.

**Supervisor**

(Dr P Praveen)

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***PROBLEM STATEMENT:***

Develop a C Application to store details of the passenger’s reservation in terms of (Name, Age, Gender, Beginning point, Destination, Reservation, Payment). Store the data in a dynamically allocated memory of a structure.

Provide the functionality for below mentioned: 1. Read ‘n’ passengers details dynamically.

2. Sort (Ascending/Descending) ‘n’ passengers’ details according to:

➢ Name

➢ Age

➢ Gender

➢ Beginning Point

➢ Destination

➢ Reservation

➢ Payment

3. Search ‘n’ passengers details according to : ➢ Name

➢ Age

➢ Gender

➢ Beginning Point

➢ Destination

➢ Reservation

➢ Payment

4. Print ‘n’ passenger’s details.

***MODULES:***

In this application all variables and structure are declared globally so that these variables and structure members can be accessed throughout the program at any function call. We can choose any function by using function calls which are declared in switch-case. In order to repeat the loop control statement (while) is used with condition.

1.Read/Input:

This system enables the customer to do things such as search for airline flights for two travel cities ,choose flight ba

4. Print

In this module all the stored details of n customers will be displayed on to the screen. In this module printf function and for loop are used.

**KNOWLEDGE REQUIRED TO DEVELOP THIS APPLICATION** ➢ Control Statements (if, if-else, switch)

➢ Loop Statements (while/do while, for)

➢ Arrays (1D/2D-arrays)

➢ Strings (Strings and Table of strings) and its functions (strcpy, strcmp)

➢ Functions (Any type of user defined functions)

➢ Structure (structures and nested structures)

➢ Pointers (pointer to strings and pointers to structures) ➢ Dynamic Memory Allocation (malloc/ calloc/ realloc)

**SOURCE CODE [.C FILE]:**

**#include <stdio.h>**

**#include <stdlib.h>**

**#include <string.h>**

**#define MAX\_SEATS 100**

**struct Passenger {**

**char name[50];**

**int age;**

**char gender;**

**int seat\_num;**

**int is\_reserved;**

**char from[10];**

**char to[10];**

**int time;**

**};**

**long long int bal=210723;**

**struct Passenger passengers[MAX\_SEATS];**

**void initialize()**

**{**

**int i;**

**for ( i = 0; i < MAX\_SEATS; i++)**

**{**

**passengers[i].is\_reserved = 0;**

**}**

**}**

**void display()**

**{**

**int i;**

**printf("Seat Number\tName\t\tAge\tGender\tFrom\tTo\tduration\n");**

**for ( i = 0; i < MAX\_SEATS; i++)**

**{**

**if (passengers[i].is\_reserved)**

**{**

**printf("%d\t\t%s\t\t%d\t%c\t%s\t%s\t%d hour(s)\n", passengers[i].seat\_num, passengers[i].name, passengers[i].age, passengers[i].gender,passengers[i].from,passengers[i].to,passengers[i].time);**

**} else {**

**printf("%d\t\t--\n", i + 1);**

**}**

**}**

**}**

**void reserve()**

**{**

**int code,opt,dlh,amtsd,dbi,sdny;**

**struct Passenger passenger;**

**printf("Enter passenger name: ");**

**scanf("%s", passenger.name);**

**printf("Enter passenger age: ");**

**scanf("%d", &passenger.age);**

**printf("Enter passenger gender (M/F): ");**

**scanf(" %c", &passenger.gender);**

**system("cls");**

**printf("Choose your Starting point:\n");**

**printf("1. Sydney.\n");**

**printf("2. Amsterdam.\n");**

**printf("3. Newyork.\n");**

**printf("4. Dubai.\n");**

**scanf("%d",&opt);**

**printf("For confermation, enter the city name here: ");**

**scanf("%s",passenger.from);**

**switch(opt)**

**{**

**case 1:**

**{**

**printf("Choose your Destination:\n");**

**printf("1. Amsterdam.\n");**

**printf("2. Newyork.\n");**

**printf("3. Dubai.\n");**

**scanf("%d",&sdny);**

**printf("For conformation, enter the city name here: ");**

**scanf("%s",passenger.to);**

**printf("Enter preferred seat number: ");**

**scanf("%d", &passenger.seat\_num);**

**printf("Enter your UPI pin: ");**

**scanf("%d",&code);**

**switch(sdny)**

**{**

**case 1: printf("\n\n-----------Reservation successful!-----------\n");**

**printf("Happy journey to 'Amsterdam'.....\n\n");**

**bal=bal-49013;**

**printf("\nyour Balance left in your bank account: %d\n\n\n",bal);**

**passenger.time=24;**

**break;**

**case 2: printf("\n\n-----------Reservation successful!-----------\n ");**

**printf("Happy journey to 'Newyork'.....\n\n");**

**bal=bal-70352;**

**printf("\nyour Balance left in your bank account: %d\n\n\n",bal);**

**passenger.time=20;**

**break;**

**case 3: printf("\n\n-----------Reservation successful!-----------\n");**

**printf("Happy journey to 'Dubai'.....\n\n");**

**bal=bal-47273;**

**printf("\nyour Balance left in your bank account: %d\n\n\n",bal);**

**passenger.time=14;**

**break;**

**default:printf("\n\nChoose from given options.\n\n");**

**break;**

**}**

**}**

**break;**

**case 2:**

**{**

**printf("Choose your Destination:\n");**

**printf("1. Sydney.\n");**

**printf("2. Newyork.\n");**

**printf("3. Dubai.\n");**

**scanf("%d",&sdny);**

**printf("For conformation, enter the city name here: ");**

**scanf("%s",passenger.to);**

**printf("Enter preferred seat number: ");**

**scanf("%d", &passenger.seat\_num);**

**printf("Enter your UPI pin: ");**

**scanf("%d",&code);**

**switch(sdny)**

**{**

**case 1: printf("\n\n-----------Reservation successful!-----------\n");**

**printf("Happy journey to 'Sydney'.....\n\n");**

**bal=bal-62736;**

**printf("\nyour Balance left in your bank account: %d\n\n\n",bal);**

**passenger.time=24;**

**break;**

**case 2: printf("\n\n-----------Reservation successful!-----------\n ");**

**printf("Happy journey to 'Newyork'.....\n\n");**

**bal=bal-21540;**

**printf("\nyour Balance left in your bank account: %d\n\n\n",bal);**

**passenger.time=8;**

**break;**

**case 3: printf("\n\n-----------Reservation successful!-----------\n");**

**printf("Happy journey to 'Dubai'.....\n\n");**

**bal=bal-17083;**

**printf("\nyour Balance left in your bank account: %d\n\n\n",bal);**

**passenger.time=6;**

**break;**

**default:printf("\n\nChoose from given options.\n\n");**

**break;**

**}**

**}**

**break;**

**case 3:**

**{**

**printf("Choose your Destination:\n");**

**printf("1. Sydney.\n");**

**printf("2. Amsterdam.\n");**

**printf("3. Dubai.\n");**

**scanf("%d",&sdny);**

**printf("For confermation, enter the city name here: ");**

**scanf("%s",passenger.to);**

**printf("Enter preferred seat number: ");**

**scanf("%d", &passenger.seat\_num);**

**printf("Enter your UPI pin: ");**

**scanf("%d",&code);**

**switch(sdny)**

**{**

**case 1: printf("\n\n-----------Reservation successful!-----------\n");**

**printf("Happy journey to 'Sydney'.....\n\n");**

**bal=bal-76142;**

**printf("\nyour Balance left in your bank account: %d\n\n\n",bal);**

**passenger.time=20;**

**break;**

**case 2: printf("\n\n-----------Reservation successful!-----------\n ");**

**printf("Happy journey to 'Amsterdam'.....\n\n");**

**bal=bal-50310;**

**printf("\nyour Balance left in your bank account: %d\n\n\n",bal);**

**passenger.time=8;**

**break;**

**case 3: printf("\n\n-----------Reservation successful!-----------\n");**

**printf("Happy journey to 'Dubai'.....\n\n");**

**bal=bal-47543;**

**printf("\nyour Balance left in your bank account: %d\n\n\n",bal);**

**passenger.time=14;**

**break;**

**default:printf("\n\nChoose from given options.\n\n");**

**break;**

**}**

**}**

**break;**

**case 4:**

**{**

**printf("Choose your Destination:\n");**

**printf("1. Sydney.\n");**

**printf("2. Amsterdam.\n");**

**printf("3. Newyork.\n");**

**scanf("%d",&sdny);**

**printf("For confermation, enter the city name here: ");**

**scanf("%s",passenger.to);**

**printf("Enter preferred seat number: ");**

**scanf("%d", &passenger.seat\_num);**

**printf("Enter your UPI pin: ");**

**scanf("%d",&code);**

**switch(sdny)**

**{**

**case 1: printf("\n\n-----------Reservation successful!-----------\n");**

**printf("Happy journey to 'Sydney'.....\n\n");**

**bal=bal-42957;**

**printf("\nyour Balance left in your bank account: %d\n\n\n",bal);**

**passenger.time=14;**

**break;**

**case 2: printf("\n\n-----------Reservation successful!-----------\n ");**

**printf("Happy journey to 'Amsterdam'.....\n\n");**

**bal=bal-19242;**

**printf("\nyour Balance left in your bank account: %d\n\n\n",bal);**

**passenger.time=6;**

**break;**

**case 3: printf("\n\n-----------Reservation successful!-----------\n");**

**printf("Happy journey to 'Newyork'.....\n\n");**

**bal=bal-42237;**

**printf("\nyour Balance left in your bank account: %d\n\n\n",bal);**

**passenger.time=14;**

**break;**

**default:printf("\n\nChoose from given options.\n\n");**

**break;**

**}**

**}**

**break;**

**default:printf("\n\nChoose from given options.\n\n");**

**break;**

**}**

**if (passenger.seat\_num < 1 || passenger.seat\_num > MAX\_SEATS) {**

**printf("Invalid seat number!\n");**

**return;**

**goto abc;**

**}**

**if (passengers[passenger.seat\_num - 1].is\_reserved)**

**{**

**printf("\n\nxxx\_\_\_\_\_\_\_\_\_\_Seat already reserved!\_\_\_\_\_\_\_\_\_\_xxx\n");**

**return;**

**goto abc;**

**}**

**passengers[passenger.seat\_num - 1] = passenger;**

**passengers[passenger.seat\_num - 1].is\_reserved = 1;**

**abc:**

**printf(" ");**

**}**

**void cancel()**

**{**

**int seat\_num;**

**printf("Enter seat number to cancel reservation: ");**

**scanf("%d", &seat\_num);**

**if (seat\_num < 1 || seat\_num > MAX\_SEATS)**

**{**

**printf("\n\n\_\_\_\_\_\_\_\_\_Invalid seat number!\_\_\_\_\_\_\_\_\_\n\n");**

**return;**

**}**

**if (!passengers[seat\_num - 1].is\_reserved)**

**{**

**printf("No reservation found for this seat number!\n");**

**return;**

**}**

**passengers[seat\_num - 1].is\_reserved = 0;**

**printf("Reservation cancelled successfully!\n");**

**}**

**int main()**

**{**

**int choice;**

**initialize();**

**while (1) {**

**printf("\n--- Airline Reservation System ---\n");**

**printf("1. Display available seats\n");**

**printf("2. Reserve a seat\n");**

**printf("3. Cancel a reservation\n");**

**printf("4. Exit\n");**

**printf("Enter your choice: ");**

**scanf("%d", &choice);**

**switch (choice)**

**{**

**case 1:**

**display();**

**break;**

**case 2:**

**reserve();**

**break;**

**case 3:**

**cancel();**

**break;**

**case 4:**

**printf("Exiting program...\n");**

**exit(0);**

**default:**

**printf("Invalid choice!\n");**

**}**

**}**

**return 0;**

**}**

**RESULTS:**