AIRLINE BOOKING SYSTEM

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12-A

2021 - 2022

جيمس مدرستنا الثانوية الإنجليزية دبي
GEMS Our Own English High School, Dubai

Department of Computer Science

Certificate

Roll.no:.....

Certified that Miss/Master .....Navanidhiy Achuthan Kumaraguru and Neaha Bijo..... of Grade ...12... Section ...A... has carried out the project work in Computer Science presented by Central Board of Secondary Education, New Delhi during the academic year .....2021-2022.....

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We thank her for guiding and supporting us throughout and resolve the areas where we were stalled, and every error made. Without her guidance we would never be able to complete this project. We thank you Ma'am for teaching us Computer Science and cultivating our interest through fun and engaging classes.

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We would like to thank our classmates and friends for providing us resources which we had missed despite their schedules.

Thank you

PROBLEM DEFINITION

The following menu driven program is a prototype of airline destinations records of an airline booking site that performs the following:

- VIEW and browse through different airline destinations records
- ADD and book flight tickets records
- Modify and edit flight tickets records
- DELETE flight tickets records
- BOOK flight tickets
- CANCEL flight tickets

HARDWARE AND SOFTWARE REQUIREMENTS

Hardware:

- Monitor
- Keyboard
- Mouse

Software:

- Windows
- Microsoft Word 2019
- Thonny 3.3.1
- Snipping Tool
- Snip and Sketch
- Notepad

LIST DATA

DATABASE CONTENT

SEATNO	ROUTE	SEATCLASS	PRICE	AVAILABLITY
C1	DUBAI-NEW DELHI	ECONOMY	1500	YES
C2	DUBAI-NEW DELHI	ECONOMY	1600	YES
C3	DUBAI-NEW DELHI	ECONOMY	1650	YES
C4	DUBAI-NEW DELHI	ECONOMY	1700	YES
B1	DUBAI-NEW DELHI	BUSINESS	2000	YES
B2	DUBAI-NEW DELHI	BUSINESS	2200	YES
B3	DUBAI-NEW DELHI	BUSINESS	2300	YES
B4	DUBAI-NEW DELHI	BUSINESS	2400	YES
A1	DUBAI-NEW DELHI	FIRST	3000	YES
A2	DUBAI-NEW DELHI	FIRST	3500	YES
A3	DUBAI-NEW DELHI	FIRST	3600	YES
A4	DUBAI-NEW DELHI	FIRST	3800	YES

ALGORITHM

STEP1: Start

STEP2: Display main menu

```
print('I~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~I')
print('|__________WELCOME TO THE WORLD OF TRAVELLING__________|')
print('|~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~|')
print('|_________________________MENU_________________________|')
print('|                                                      |')
print('|        x------------MAINTENANCE------------x         |')
print('|        x   1 -<>- View All Records         x         |')
print('|        x   2 -<>- View Prices              x         |')
print('|        x   3 -<>- Add Seats                x         |')
print('|        x   4 -<>- Modify                   x         |')
print('|        x   5 -<>- Delete                   x         |')
print('|        x-----------TRANSACTION ------------x         |')
print('|        x   6 -<>- Booking Seats            x         |')
print('|        x   7 -<>- Cancelling Seats         x         |')
print('|        x-----------------------------------x         |')
print('|        x   8 -<>- Exit                     x         |')
print('|______________________________________________________|')
print('|---------------- BY XII - A 2021-2022 ----------------|')
print('|~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~|')
print()
print('Please pick Option')
```

STEP 3 : If option 1 is selected

STEP 3.1: All records are displayed

STEP4: If option 2 is selected

STEP4.1: Enter seat.no to be viewed

STEP4.2: Seatno., Route, Class, Price and Availability will be displayed.

STEP4.3: If the seat no. entered is invalid.

STEP4.4: The statement will say ‘Invalid Seat’

STEP5: If option 3 is selected

STEP5.1: Enter seatno.

STEP5.2: Input string converts to uppercase using ‘.upper()’

STEP5.3: Enter price

STEP5.4: Input string converts to uppercase using ‘.upper()’

STEP5.5: Append seat, class, route, price and availability in empty list

STEP5.6: Display new List

STEP6: If option 4 is selected

STEP6.1: Enter seatno.

STEP6.2: Input string converts to uppercase using ‘.upper()’

STEP6.3: Enter element to change

STEP6.4: Input string converts to uppercase using ‘.upper()’

STEP6.5: Enter new element

STEP6.6: Input string converts to uppercase using ‘.upper()’

STEP6.7: Display modified list

STEP7: If option 5 is selected

STEP7.1: Input seat

STEP7.2: Display record is deleted

STEP8: If option 6 is selected

STEP8.1: Input seatno.

STEP8.2: Input string converts to uppercase using ‘.upper()’

STEP8.3: Display route, class, seat and price

STEP8.4: Confirm booking

STEP8.5: If confirm=YES:

STEP8.6: Availability changes to ‘ava=n’

STEP8.7: If confirm=NO:

STEP8.8: Booking is not saved

STEP9.1: If option 7 is selected

STEP9.2: Enter seatno.

STEP9.4: Confirm cancellation

STEP9.5: If confirm=YES:

STEP9.6: Availability changes to ‘ava=y’

STEP9.3: Display ‘Ticket is cancelled’

STEP9.7: If confirm=NO:

STEP9.8: Cancellation is not saved

STEP10.1: If option 8 is selected

STEP10.2: Display ‘EXIT’

PROGRAM LISTING

```
import pickle as pic
import os

def viewallrecords():
    f=open('airportticket.dat','rb')
    try:
        while True:
            rec=pic.load(f)
            print(rec)
    except:
        pass
    f.close()
```

```
def viewseat():
    f=open('airportticket.dat','rb')
    v =input('Enter seat to be viewed: ')
    v1=v.upper()
    try:
        while True:
            rec=pic.load(f)
            for i in rec:
                if rec[0]==v1:
                    ls='Seat:'+rec[0]
                    lp='Price:'+str(rec[3])
                    lc='Class:'+rec[2]
                    la='ava='+rec[4]
                    lr='ROUTE:'+rec[1]
                    print(ls)
                    print(lr)
                    print(lc)
                    print(lp)
                    print(la)
                    break
    except:
        pass
    f.close()
```

```
def addseat():
    f=open('airportticket.dat','ab')
    l=[]
    s=input(('Enter New Seat:'))
    ss=s.capitalize()
    r=input('Enter route:')
    ru=r.upper()
    p=int(input('Enter Price:'))
    c=input('Enter Class:')
    cc=c.capitalize()
    a=input('Availability(y/n):')
    l.append(ss)
    l.append(ru)
    l.append(cc)
    l.append(p)
    l.append(a)
    print(l)
    pic.dump(l,f)
    print('RECORD ADDED')
    f.close()
```

```
def updateseat():
    f=open('airportticket.dat','rb')
    ft=open('temprecord.dat','ab')
    v=input('Enter seat no.: ')
    v1=v.upper()
    print('TICKET DETAILS')
    try:
        while True:
            rec=pic.load(f)
            if rec[0]==v1:
                ls='Seat:'+rec[0]
                lp='Price:'+str(rec[3])
                lc='Class:'+rec[2]
                la='ava='+rec[4]
                lr='ROUTE:'+rec[1]
                print(ls)
                print(lr)
                print(lc)
                print(lp)
                print(la)
                pc=input('Do you want to modify price (y/n):')
                pc1=pc.upper()
```

```
                if pc1=='Y':
                    p=int(input('Enter new price: '))
                    rec[3]=p
                elif pc1=='N':
                    pass
                cc=input('Do you want to modify class (y/n):')
                cc1=cc.upper()
                if cc1=='Y':
                    c=input('Enter new class: ')
                    c2=c.capitalize()
                    rec[2]=c2
                elif cc1=='N':
                    pass
                cc3=input('Do you want to modify availability (y/n):')
                pc3=cc3.upper()
                if pc3=='Y':
                    av=input('Enter availability change:')
                    rec[4]=av
                elif pc3=='N':
                    pass
                rec=[rec[0],rec[1], rec[2],rec[3],rec[4]]
                print('Your updated record is as follows')
                print(rec)
```

```
            pic.dump(rec,ft)

    except:
        pass
    f.close()
    ft.close()
    os.remove('airportticket.dat')
    os.rename('temprecord.dat','airportticket.dat')
```

```
def deleteseat():
    f=open('airportticket.dat','rb')
    f1 = open('temprecord.dat','ab')
    v = input('Enter the seat number to be deleted: ')
    v1=v.upper()
    try:
        while True:
            rec=pic.load(f)
            if rec[0] == v1:
                print('This record is deleted')
                continue
            elif rec[0] != v1:
                continue
            pic.dump(rec,f1)
    except:
        pass
    f.close()
    f1.close()
    os.remove('airportticket.dat')
    os.rename('temprecord.dat','airportticket.dat')
```

```
def bookingseats():
    f=open('airportticket.dat','rb')
    ft=open('temprecord.dat','ab')
    cd=input('Enter seat no.: ')
    cd1=cd.upper()
    print('TICKET DETAILS')
    try:
        while True:
            rec=pic.load(f)
            if rec[0]==cd1:
                ls='Seat:'+rec[0]
                lp='Price:'+str(rec[3])
                lc='Class:'+rec[2]
                la='ava='+rec[4]
                lr='ROUTE:'+rec[1]
                print(ls)
                print(lr)
                print(lc)
                print(lp)
                print(la)
                print('Do you want to confirm your booking?')
                confirm=input('Enter yes or no:')
                confirm2= confirm.upper()
```

```
                if confirm2=='YES':
                    rec[4]='n'
                    print('Your Booking is as follows')
                    la='ava='+rec[4]
                    print(ls)
                    print(lr)
                    print(lc)
                    print(lp)
                    print(la)
                elif confirm2=='NO':
                    print('Your booking will not be saved')
            rec=[rec[0],rec[1], rec[2],rec[3],rec[4]]
            pic.dump(rec,ft)
    except:
        pass
    f.close()
    ft.close()
    os.remove('airportticket.dat')
    os.rename('temprecord.dat','airportticket.dat')
```

```
def cancellingseats():
    f=open('airportticket.dat','rb')
    ft=open('temprecord.dat','ab')
    cd=input('Enter seat no.: ')
    cd1=cd.upper()
    print('TICKET DETAILS')
    try:
        while True:
            rec=pic.load(f)
            if rec[0]==cd1:
                ls='Seat:'+rec[0]
                lp='Price:'+str(rec[3])
                lc='Class:'+rec[2]
                la='ava='+rec[4]
                lr='ROUTE:'+rec[1]
                print(ls)
                print(lr)
                print(lc)
                print(lp)
                print(la)
                print('Do you want to confirm your cancelling?')
                confirm=input('Enter yes or no:')
                confirm2= confirm.upper()
```

```
                if confirm2=='YES':
                    rec[4]='y'
                elif confirm2=='NO':
                    print('Your cancellation will not be saved')
            rec=[rec[0],rec[1], rec[2],rec[3],rec[4]]
            pic.dump(rec,ft)
    except:
        pass
    f.close()
    ft.close()
    os.remove('airportticket.dat')
    os.rename('temprecord.dat','airportticket.dat')
```

```python
print('I~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~I')
print('|__________WELCOME TO THE WORLD OF TRAVELLING__________|')
print('|~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~|')
print('|_________________________MENU_________________________|')
print('|                                                      |')
print('|        x------------MAINTENANCE------------x         |')
print('|        x   1 -<>- View All Records         x         |')
print('|        x   2 -<>- View Prices              x         |')
print('|        x   3 -<>- Add Seats                x         |')
print('|        x   4 -<>- Modify                   x         |')
print('|        x   5 -<>- Delete                   x         |')
print('|        x-----------TRANSACTION ------------x         |')
print('|        x   6 -<>- Booking Seats            x         |')
print('|        x   7 -<>- Cancelling Seats         x         |')
print('|        x-----------------------------------x         |')
print('|        x   8 -<>- Exit                     x         |')
print('|______________________________________________________|')
print('|---------------- BY XII - A 2021-2022 ----------------|')
print('|~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~|')
print()
print('Please pick Option')
```

```python
n = 0
while n < 8:
    n = int(input('Enter the option: '))
    if n == 1:
        viewallrecords()
    elif n == 2:
        viewseat()
    elif n == 3:
        addseat()
    elif n == 4:
        updateseat()
    elif n == 5:
        deleteseat()
    elif n == 6:
        bookingseats()
    elif n == 7:
        cancellingseats()
    else:
        print('Exit')
```

PROGRAM RUN

```
I~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~I
|__________WELCOME TO THE WORLD OF TRAVELLING__________|
|~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~|
|_____________________________MENU_____________________________________|
|                                                                       |
|         x------------MAINTENANCE------------x                         |
|         x   1 -<>- View All Records          x                        |
|         x   2 -<>- View Prices               x                        |
|         x   3 -<>- Add Seats                 x                        |
|         x   4 -<>- Modify                    x                        |
|         x   5 -<>- Delete                    x                        |
|         x-----------TRANSACTION ------------x                         |
|         x   6 -<>- Booking Seats             x                        |
|         x   7 -<>- Cancelling Seats          x                        |
|         x-----------------------------------x                         |
|         x   8 -<>- Exit                      x                        |
|_______________________________________________________________________|
|---------------- BY XII - A 2021-2022 ----------------------------------|
|~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~|
```

Please pick Option

VIEW ALL RECORDS

Enter the option: 1

['C1', 'DUBAI - NEW DELHI', 'Economy', 1500, 'y']

['C2', 'DUBAI - NEW DELHI', 'Economy', 1600, 'y']

['C3', 'DUBAI - NEW DELHI', 'Economy', 1650, 'y']

['C4', 'DUBAI - NEW DELHI', 'Economy', 1700, 'y']

['B1', 'DUBAI - NEW DELHI', 'Business', 2000, 'y']

['B2', 'DUBAI - NEW DELHI', 'Business', 2200, 'y']

['B3', 'DUBAI - NEW DELHI', 'Business', 2300, 'y']

['B4', 'DUBAI - NEW DELHI', 'Business', 2400, 'y']

['A1', 'DUBAI - NEW DELHI', 'First', 3000, 'y']

['A2', 'DUBAI - NEW DELHI', 'First', 3500, 'y']

['A3', 'DUBAI - NEW DELHI', 'First', 3600, 'y']

['A4', 'DUBAI - NEW DELHI', 'First', 3800, 'y']

VIEW TICKETING OPTIONS

```
Enter the option: 2
Enter seat to be viewed: c1
Seat:C1
ROUTE:DUBAI - NEW DELHI
Class:Economy
Price:1500
ava=y
```

SEAT ADDING

```
Enter the option: 3
Enter New Seat:d1
Enter route:dubai - london
Enter Price:2100
Enter Class:premium
Availability(y/n):y
['D1', 'DUBAI - LONDON', 'Premium', 2100, 'y']
RECORD ADDED
```

MODIFYING RECORD

```
Enter the option: 4
Enter seat no.: d1
TICKET DETAILS
Seat:D1
ROUTE:DUBAI - LONDON
Class:Premium
Price:2100
ava=y
Do you want to modify price (y/n):y
Enter new price: 2700
Do you want to modify class (y/n):y
```

```
Enter new class: first
Do you want to modify availability (y/n):n
Your updated record is as follows
['D1', 'DUBAI - LONDON', 'First', 2700, 'y']
```

DELETE RECORD

```
Enter the option: 5
Enter the seat number to be deleted: d1
This record is deleted
```

TICKET BOOKING

```
Enter the option: 6
Enter seat no.: a1
TICKET DETAILS
Seat:A1
ROUTE:DUBAI - NEW DELHI
Class:First
Price:3000
ava=y
Do you want to confirm your booking?
Enter yes or no:yes
Your Booking is as follows
Seat:A1
ROUTE:DUBAI - NEW DELHI
Class:First
Price:3000
ava=n
```

TICKET CANCELLATION

```
Enter the option: 7
Enter seat no.: a1
```

TICKET DETAILS

Seat:A1

ROUTE:DUBAI - NEW DELHI

Class:First

Price:3000

ava=n

Do you want to confirm your cancelling?

Enter yes or no:yes

EXIT PROGRAM

Enter the option: 8

Exit

BIBLIOGRAPHY

Programming Language: Python 3.7.7

Language Complier: Thonny 3.3.1

Project Documentation: Microsoft Word 2019

Coding Reference: School Notes

Input Output Sample: Notepad and Microsoft Word 2019

Image source: Google Photos