



COMP210 - Programming for engineers

Faculty of Engineering - Fall 2023

Eng. Hadi Al Mubasher

Final project: Programming for engineers (python)

Airline system management

Prepared by:

Ahmad Ghalayini 202301419

Ahmad Khalil 202303762

Abed Al Rida Nehme 202303149

Mahdi Al Ajami 202302965

Objectives:

Airline system management make the user able to:

- View all available flights at certain time.
- Offer the user suitable flights.
- Offer the user flights by his choice of time, date and plane.
- Let the user choose every detail in his trip for comfort.

Description:

- Upon starting the program, the user will be asked to enter his credentials such as (name, age, email, telephone number) and that's on order to satisfy the user's needs.
- No Filter flight: It is a choice offered to the user. It randomizes his choices of date of flight and time, it suggests all available flights with different times, dates, countries and airlines.

- Filtered flight: The classical mode for flight reservation which gives the user 100% free choices for his trip, such as date, time, flight and of course the country.
- After choosing filtration of trip. There comes the choice of the trip itself, which is classified into 3 types, one way (departure only), Round trip (departure and return) and multi-cities (adventure mode: have multiple flights to visit different countries).
- Sequentially the user is asked about the number of people attending Onboard, Adults (+12 years old), children (2-12 years old) and infants (0-23 months).
- Those questions are very important because each member attending has a limit of a certain weight from smallest limit for infants till the largest which is for the adults. (If the total weight

exceeded the limit, there will be a certain payment that must be paid to pass the extra weights on board).

- Now for choosing the flight class which also is divided into 3 classes, first class, business class and the economy class. **If there is a promo code it can help with the payments.**
- **One of the most important parts for the users which is** the proper seating in the airplane. it is classified also into 2 types random seating which chooses the empty seats randomly for the user. And manual seating booking which lets the user have full access to choose a suitable seat for him and the people attending the flight with him.

Future objectives:

1-expand the list of destinations

- For sure we can expand the scope of the destinations by simulating the real-life available choices.
- In this program we tried to shrink the area of operation of this program with the top 10 destinations worldwide.

2-applying more filters

- Some airlines offer even further filters on the flights and the flight preparation to include all the changes that the clients want to make.

- We can also apply these new filters depending on the airline company because the filters may differentiate between a company and another.

3-implementing more related procedures

- **Safety Briefing:** Before the flight takes off, the cabin crew will provide a safety briefing, demonstrating the use of safety equipment and giving instructions for emergencies.
- **Security Check:** After receiving your boarding pass, you'll go through the security checkpoint. Here, you'll need to present your ID and boarding pass and pass through security scanners. Laptops, liquids, and certain items may need to be removed from your carry-on for screening.

- **The code screenshots:**

WELCOME ABOARD AMA AIRLINES

Please fill the following data:

FULL NAME:*Abed Al Rida Hassan Nehme*

NATIONALITY:*Lebanes*

DATE OF BIRTH(DD/MM/YY):*15/05/2004*

GMAIL:*nehmeabed7@gmail.com*

PHONE NUMBER:*7942880*

do you want your suggestions to be filtered?

1- yes

2-No

1

hello! what type of flight do you want to have?

1-departure only

2-departure and return

3-adventure mode: have multiple flights to visit the countries with the best prices

1

how many adults onboard?(+12 years old)

1

how many Children onboard?(2-12 years old)

2

how many Infants onboard(0-23 months)?

1

please choose one of the classes bellow

1-first class

2-business class

3-economy class

|

```
3
enter the promo code if you have any
none
Enter the departure day in numbers
13
Enter the departure Month in numbers
12
Enter the departure year in numbers
2023
```

- 1 Paris, France
- 2 Tokyo, Japan
- 3 Rome, Italy
- 4 New York City, USA
- 5 Sydney, Australia
- 6 Cape Town, South Africa
- 7 Kyoto, Japan
- 8 Barcelona, Spain
- 9 Machu Picchu, Peru
- 10 Santorini, Greece

Please choose your destination4

Airline	Destination	Departure	Arrival
1-QF	New York City, USA	on 13/12/2023	
Airline	Destination	Departure	Arrival
2-CX	New York City, USA	on 13/12/2023	
Airline	Destination	Departure	Arrival
3-LH	New York City, USA	on 13/12/2023	

```
Please enter what airline you want to choose1
you total allowed weight is 85
The adult can have a baggage of 25Kg , the infants can have a baggage of 15Kg, the infant can have a baggage of 10Kg.
NOTE that if there is excess weight in luggage weight (total).
Youwill have to pay the amount of 7$ per Kilogram according to the airline company 1
you total weight is 95 Kg
it surpasses the allowed weight by 10 Kg
you have to pay an extra 70$
1. Manual
2. Random
```

Boarding Pass:

Seat Number	Seat Class	Adults	Children	Infants	Destination	Date Departure	Date Arrival	Airline
None	economic class	Adult	---	---	L	13 12 2023	0 0	0
None	economic class	Child	---	---	L	13 12 2023	0 0	0
None	economic class	Child	---	---	L	13 12 2023	0 0	0
None	economic class	Infant	---	---	L	13 12 2023	0 0	0
None	economic class	Infant	---	---	L	13 12 2023	0 0	0
None	economic class	Infant	---	---	L	13 12 2023	0 0	0

Process finished with exit code 0

Activate Windows

WELCOME ABOARD AMA AIRLINES

Please fill the following data:

FULL NAME:*Abed Al Rida Hassan Nehme*

NATIONALITY:*Lebanese*

DATE OF BIRTH(DD/MM/YY):*15/05/2004*

GMAIL:*nehmeabed7@gmail.com*

PHONE NUMBER:*78942880*

do you want your suggestions to be filtered?

1- yes

2-No

1

hello! what type of flight do you want to have?

1-departure only

2-departure and return

3-adventure mode: have multiple flights to visit the countries with the best prices

2

how many adults onboard?(+12 years old)

1

how many Children onboard?(2-12 years old)

2

how many Infants onboard(0-23 months)?

1

please choose one of the classes bellow

1-first class

2-business class

3-economy class

3

3-economy class

3

enter the promo code if you have any

none

Enter the departure year in numbers

2023

Enter the departure Month in numbers

04

Enter the departure day in numbers

15

Enter the return year in numbers

2024

Enter the return Month in numbers

05

Enter the return day in numbers

0

1 Paris, France

2 Tokyo, Japan

3 Rome, Italy

4 New York City, USA

5 Sydney, Australia

6 Cape Town, South Africa

7 Kyoto, Japan

8 Barcelona, Spain

9 Machu Picchu, Peru

10 Santorini, Greece

Please choose your destination|

```
6 Cape Town, South Africa
7 Kyoto, Japan
8 Barcelona, Spain
9 Machu Picchu, Peru
10 Santorini, Greece
Please choose your destination:
  Airline  Destination      Departure  Arrival
1-SQ      Paris, France    on 15/4 /2023  6 /5 /2024
  Airline  Destination      Departure  Arrival
2-TG      Paris, France    on 15/4 /2023  6 /5 /2024
  Airline  Destination      Departure  Arrival
3-QF      Paris, France    on 15/4 /2023  6 /5 /2024
  Airline  Destination      Departure  Arrival
4-QF      Paris, France    on 15/4 /2023  6 /5 /2024
  Airline  Destination      Departure  Arrival
5-CX      Paris, France    on 15/4 /2023  6 /5 /2024
Please enter what airline you want to choose:
you total allowed weight is 65
The adult can have a baggage of 25Kg , the infants can have a baggage of 15Kg, the infant can have a baggage of 10Kg.
NOTE that if there is excess weight in luggage weight (total).
Youwill have to pay the amount of 7$ per Kilogram according to the airline company 6
you total weight is 71 Kg
it surpasses the allowed weight by 6 Kg
you have to pay an extra 42$
1. Manual
2. Random
```

```
4-QF      Paris, France    on 15/4 /2023  6 /5 /2024
  Airline  Destination      Departure  Arrival
5-CX      Paris, France    on 15/4 /2023  6 /5 /2024
Please enter what airline you want to choose:
you total allowed weight is 65
The adult can have a baggage of 25Kg , the infants can have a baggage of 15Kg, the infant can have a baggage of 10Kg.
NOTE that if there is excess weight in luggage weight (total).
Youwill have to pay the amount of 7$ per Kilogram according to the airline company 6
you total weight is 71 Kg
it surpasses the allowed weight by 6 Kg
you have to pay an extra 42$
1. Manual
2. Random
$

Boarding Pass:
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| Seat Number | Seat Class | Adults | Children | Infants | Destination | Date Departure | Date Arrival | Airline |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| None | economic class | Adult | --- | --- | 1 | 15 4 2023 | 6 5 2024 |
| None | economic class | Child | --- | --- | 1 | 15 4 2023 | 6 5 2024 |
| None | economic class | Child | --- | --- | 1 | 15 4 2023 | 6 5 2024 |
| None | economic class | Infant | --- | --- | 1 | 15 4 2023 | 6 5 2024 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+

```