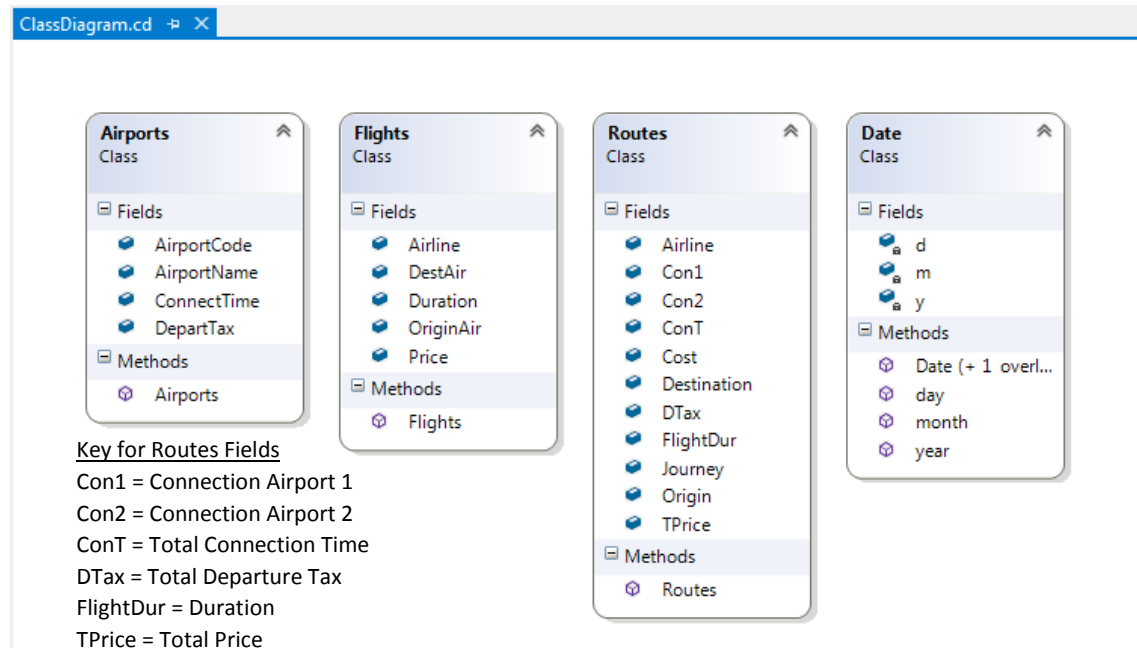Name: Simon Yan Lung Yip
Student Number: B424047

COA256 Object-oriented Programming & Algorithms

Assignment 1 – Report

Design

In total, there are seven headers files, five source files and four classes in my solution.
The header files include the four classes. The classes are Airports, Flights, Routes and Date.

Below you will see class diagram created on Visual Studio 2012:

Key for Routes Fields
Con1 = Connection Airport 1
Con2 = Connection Airport 2
ConT = Total Connection Time
DTax = Total Departure Tax
FlightDur = Duration
TPrice = Total Price

Airports, Flights and Routes Classes

For the Airports and Flights classes, I have designed it to have the same attribute (or fields in the class diagram above) as the file structure of the text files, "airports.txt" and "flights.txt" along with one method which is the constructor.

For the Routes class, I have designed it so it can contain all the fields the user need to know when the booking a flight. There are 11 attribute and one method (the constructor) in total.

The reason why I have created the Airports, Flights and Routes classes is because I need to create a constructor to maintain the structure of each record in the text files.
For instance: "flights.txt" has the structure

OriginAirport, DestinationAirport, Airline, Price, and Duration

When the program read the files, I can create a vector using this class structure to store these fields as one single element. This way, each record of data stored in the vector using this class will be numbered and separated by fields. This allows easy access to data whether it is a complete output of all data or comparing fields with input variables.

Otherwise, the alternative option would be to store each field as a separate vector which will generate a lot vectors, wasting storage space and the solution will become a lot more complicated than it need to be.

Name: Simon Yan Lung Yip
Student Number: B424047

Date Class

For the date class, I have designed it to contain the day, month and year, able to validate the date and output in a contain format. (See date.cpp comments). The date class is necessary because extra functionality can be added in the future, improvement can be made in within class.

DataIO (takes up 1 header and 1 source file)

DataIO files contain all the functions that involves with data input and data export of the program such as importing data from airports.txt and flights.txt and exporting data like the booking receipt. The reasons why I have created separate files for this so that I can separate functions that are not related to import or export, the result is that code is neatly laid out.

DataConfig (takes up 1 header and 1 source file)

DataConfig files contain all the functions that involves with data configuration/ manipulation of the program. The reason why I have created separate files for this so that it separate functions that are not related data configuration can be store elsewhere, in result the code is neatly laid out.

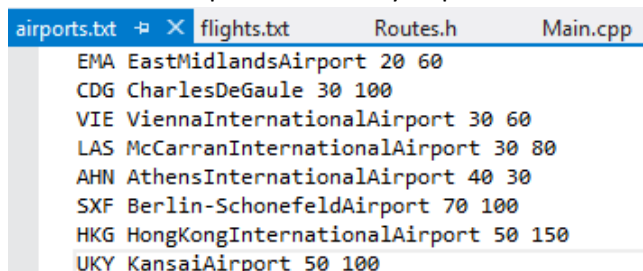UserInterface (takes up 1 header and 1 source file)

The UserInterface contains functions which determination which functionality of the flight booking system it will run. The functions will have instructions guiding the user what to do and contain appropriate function within the DataConfig files that correspond to the functionality of the function, e.g. FindFlight() will contain the search function from DataConfig.

that outputs to the screen and execute appropriate function within the DataConfig files. It allows the program to separates the functionality of the program to different section so that it will only use function that

Main (takes up 1 source file)

The Main file is necessary to get the program start. The main will run functions from the UserInterface file and error catching are written at the end of the main file.

These are the airports data in my airports.txt file

```
airports.txt  ╪ ✕  flights.txt        Routes.h        Main.cpp
    EMA EastMidlandsAirport 20 60
    CDG CharlesDeGaule 30 100
    VIE ViennaInternationalAirport 30 60
    LAS McCarranInternationalAirport 30 80
    AHN AthensInternationalAirport 40 30
    SXF Berlin-SchonefeldAirport 70 100
    HKG HongKongInternationalAirport 50 150
    UKY KansaiAirport 50 100
```

These are the flights data in my flights.txt file

airports.txt | **flights.txt** ⊞ ✕ | Routes.h
```
EMA CDG BritishAirways 120 100
CDG VIE AirFrance 120 100
EMA VIE BritishAirways 300 300
EMA CDG Ryanair 130 80
EMA LAS VirginAtlantic 150 300
EMA HKG BritishAirways 800 1020
EMA HKG VirginAtlantic 900 1000
HKG UKY JapanAirlines 200 120
HKG EMA BritishAirways 850 1020
HKG EMA VirginAtlantic 900 1000
UKY HKG CathayPacific 180 120
LAS UKY VirginAtlantic 400 800
LAS EMA VirginAtlantic 200 300
CDG SXF AirEuropa 250 220
SXF AHN AirEuropa 300 180
EMA AHN Ryanair 450 200
AHN VIE CathayPacific 180 250
VIE EMA BritishAirways 300 300
SXF VIE AirEuorpa 230 160
```

Functionality

Functionality	Y(Complete) P (Partial) N (None)	Comments (e.g. more details on what is not working etc.)
Data Import (from files)	Y	Finished
User Input (from keyboard)	Y	User is able to input integers/words/date at appropriate point in program, correct error is thrown for invalid inputs.
List flights for an airport	Y	Able to list both departure and arrivals in tables.
Search for direct flights	Y	Created a search function for this
Search via 1 connection	Y	Included within the search function
Search via 2 connections	Y	Included within the search function
Sorting itineraries by cost/time	Y	Created a Bubblesort function to do this, allows the user to choose not to sort the itineraries as well.
Book flight/"print" ticket	Y	User is able to select and book flight and output a receipt to screen and to file.
Handling dates correctly	Y	Date can be inputted and displayed in receipt. The month is outputted in words. (Extra: Able to limit the number of days according to month, 30th or 31st)
Error handling	Y	5 catches are made. Able to catch runtime error, an integer, a character, exceptions, and other unknown error.
Display all Airport Names and Code (Extra)	Y	Able to display all Airport Codes and their respective names in a table.

Evidence of Testing

<u>Error handling</u>

Input	Expected Output	Actual Output
Throw runtime error	An error message and return to the start of the program	An error message and return to the start of the program See <u>Throw Runtime error</u>
Throw integer	A message prompt user to enter 1 to restart or any character to end program	A message prompt user to enter 1 to restart or any character to end program. Entering 1 restart the program <u>See Throw 1</u>
Throw character	An error message and enter any character to end program	An error message and enter any character to end program <u>See Throw e</u>
Throw exceptions	An error message and enter "q" to end program	An error message, message to enter "q" to end program <u>See Throw Exception</u>

List of thrown errors

Throw Runtime error

Throw 1 (an Integer)

Enter integer 1

Throw e (a character)

Throw Exception

Data Import (from files)

Input	Expected Output	Actual Output
Reading data airport.txt file and stored in a vector	Data stored in vector<Airports>AirportRecords	Data in airport.txt are stored in vector<Airports>AirportRecords *See appendix 1.1*
Reading data flight.txt file and stored in a vector	Data stored in vector<Flights>FlightRecords	Data in flight.txt are stored in vector<Flights>FlightRecords *See appendix 1.2*
Exporting data from program to "Receipt.txt"	Data of the booked flight will appear in Receipt.txt	Data of the booked flight will appear in Receipt.txt *See appendix 1.3*
No airports.txt file or no flights.txt file	Throw "Exception" error and texts are outputted to the screen indicating the error	"Exception" error is thrown. An error message is outputted to the screen *See appendix 1.4*
Invalid data within flight.txt file or airport.txt file	Throw "Exception" error and texts are outputted to the screen indicating the error	"Exception" error is thrown. An error message is outputted to the screen *See appendix 1.5*

User Input (from keyboard)

Input	Expected Output	Actual Output
1 at the beginning of the program	1 will go through the process of booking flight	Asking the user to enter the start of the journey *See Appendix 3.1*
2 at the beginning of the program	2 will go through the process of list flights for an airport	Asking the user to enter an Airport Code *See Appendix 2.1*
3 at the beginning of the program	3 will go list all airport in the program	Displaying a table with all the Names and Codes of airports contain in the system *See Appendix 7.1*
Anything other than an integer	Throw "Runtime" error along with an error message. The program is restarted.	As expected with an error message asking the user to enter a number. *See Appendix 8.1*

Other input evidences can be seen through other tests.

List flights for an airport

Input	Expected Output	Actual Output
An Airport Code	Display Airport information and all departure and arrival flight to screen	As expected *See Appendix 2.1*
Code that exceed 3 characters	Throw "Runtime" error along with an error message.	As expected with the warning to not a exceed 3 characters

	The program is restarted.	*See Appendix 2.2*
Invalid Airport Code that contain mixture of integer and characters	Throw "Runtime" error along with an error message. The program is restarted.	As expected with the message being Invalid Airport Code *See Appendix 2.3*

Search for flights

Input	Expected Output	Actual Output
Journey from EMA to VIE	List all possible flights including connections on screen	As expected *See Appendix 3.1*
Entering an Airport Code that doesn't exist in airport.txt	Throw "Runtime error" and texts are outputted to the screen indicating the error The program is restarted.	As expected with the message being *See Appendix 3.2*
Journey from EMA to EMA	Throw 1, and texts are outputted to the screen indicating the error	As expected with the message being no flight exists *See Appendix 3.3*

Sorting Itineraries by cost/time

Input	Expected Output	Actual Output
Sorting by time (integer 1)	Itineraries sorted by time	As expected *See Appendix 4.1*
Sorting by cost (integer 2)	Itineraries sorted by time	As expected *See Appendix 4.2*
Not Sorting (integer 3)	Itineraries not sorted	As expected *See Appendix 4.3*
Any integer input other than 1-3	Error message is outputted. The program continues to next part.	As expected with the message being selection doesn't exist *See Appendix 4.4*
Any non-integer input	Error message is outputted. Throw runtime error	As expected with the message being invalid input *See Appendix 4.5*

Book flight/"print" ticket

Input	Expected Output	Actual Output
Yes (to booking flight)	The program continues to next part.	As expected *See Appendix 5.1*
No (to booking flight)	Throw 1, with message "enter 1 to restart program or enter any character to end program"	As expected *See Appendix 5.2*
Input other than Yes or No (to booking flight)	Throw e, with message "enter any character to end program"	As expected *See Appendix 5.3*
Entering/Selecting a flight number	Output selected flight to screen.	As expected *See Appendix 5.1*

Entering a flight number that doesn't exist in the search or Entering anything other than an integer	Throw "Runtime" error along with an error message. The program is restarted.	As expected with the message either being option doesn't exist or incorrect format *See Appendix 5.4*
Yes (to confirm booking)	Output receipt to screen, export receipt to file and throw 1	As expected *See Appendix 5.1*
No (to confirm booking)	Throw 1, enter 1 to restart program or enter any character to end program	As expected *See Appendix 5.5*
Input other than Yes or No (to confirm booking)	Throw e, enter any character to end program	As expected *See Appendix 5.6*

Handling dates correctly

Input	Expected Output	Actual Output
A valid date	Date is accepted, output will have the month in string.	As expected *See Appendix 3.1*
An invalid date	Throw "Runtime error" and texts are outputted to the screen indicating the error. The program is restarted.	As expected with the message being invalid date *See Appendix 6.1*

Display all Airport Names and Code

Input	Expected Output	Actual Output
Enter 3 at the start menu	Display a table of all Airport Names and Code and throw 1 at the end	As expected *See Appendix 7.1*

Appendix

1.1

Watch 1		
Name	**Value**	**Type**
⊟ 🔄 AirportRecords	{ size=8 }	Vector<Airports>
● [size]	8	int
● [capacity]	8	int
⊞ ● [0]	{AirportCode="EMA" AirportName="EastMidlandsAirport" D	Airports
⊞ ● [1]	{AirportCode="CDG" AirportName="CharlesDeGaule" Depar	Airports
⊞ ● [2]	{AirportCode="VIE" AirportName="ViennaInternationalAirpo	Airports
⊞ ● [3]	{AirportCode="LAS" AirportName="McCarranInternationalA	Airports
⊞ ● [4]	{AirportCode="AHN" AirportName="AthensInternationalAir|	Airports
⊞ ● [5]	{AirportCode="SXF" AirportName="Berlin-SchonefeldAirpor	Airports
⊞ ● [6]	{AirportCode="HKG" AirportName="HongKongInternationa	Airports
⊞ ● [7]	{AirportCode="UKY" AirportName="KansaiAirport" DepartTa	Airports
⊞ ● [Raw View]	0x00f2e564 {Coursework.exe!Vector<Airports> AirportRecord	std::vector<Airports,std::allocator<

1.2

Watch 1		
Name	**Value**	**Type**
⊟ 🔄 FlightRecords	{ size=19 }	Vector<Flights>
● [size]	19	int
● [capacity]	19	int
⊞ ● [0]	{OriginAir="EMA" DestAir="CDG" Airline="BritishAirways" ...}	Flights
⊞ ● [1]	{OriginAir="CDG" DestAir="VIE" Airline="AirFrance" ...}	Flights
⊞ ● [2]	{OriginAir="EMA" DestAir="VIE" Airline="BritishAirways" ...}	Flights
⊞ ● [3]	{OriginAir="EMA" DestAir="CDG" Airline="Ryanair" ...}	Flights
⊞ ● [4]	{OriginAir="EMA" DestAir="LAS" Airline="VirginAtlantic" ...}	Flights
⊞ ● [5]	{OriginAir="EMA" DestAir="HKG" Airline="BritishAirways" ...}	Flights
⊞ ● [6]	{OriginAir="EMA" DestAir="HKG" Airline="VirginAtlantic" ...}	Flights

1.3

```
Enter Yes to confirm with the booking
Enter No if you want to cancel: yes

*******************************Receipt*********************************

Flight Information

Journey: EMA>>CDG>>SXF>>VIE                Date of Flight: 12 December 2015
With Airline(s):
Ryanair ---> AirEuropa ---> AirEuorpa

FlightDuration:        460        TicketPrice:  610
FlightConnectionTime: 200        DepartureTax: 120
-----------------------------------------------------
TotalDuration:         660        TotalPrice:   730

Thank you booking a flight with us,
you will find a copy of the receipt in the project directory
Enter (1) to restart or any character to End Program
```

```
Receipt.txt - Notepad
File   Edit   Format   View   Help

*****************************Receipt*********************************

Flight Information

Journey: EMA>>CDG>>SXF>>VIE                Date of Flight: 12 December 2015
With Airline(s):
Ryanair ---> AirEuropa ---> AirEuorpa

FlightDuration:        460        TicketPrice:  610
FlightConnectionTime: 200        DepartureTax: 120
-----------------------------------------------------
TotalDuration:         660        TotalPrice:   730

Thank you booking a flight with us,
```
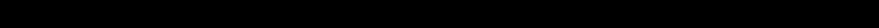
1.4

error: Can't open airports.txt file

error: Can't open flights.txt file

1.5

error: Incorrect Information in file! Check airports.txt file

error: Incorrect Information in file! Check flights.txt file

2.1


```
Welcome to the Flight Booking System
Please enter which function would you want?
(1) Book a Flight        (2) Display Flights from an Airport
(3) Display all available Airports
2
Search Airport info-----------------
Enter Airport Code : VIE

Airport Information----------------
Airport Code: VIE
Airport Name: ViennaInternationalAirport
Departure Tax: 30              Min Connection Time: 60

Flight - Departures
Journey         Airline          Price      Duration
------------------------------------------------------
VIE-->EMA       BritishAirways   300        300

Flight - Arrivals
Journey         Airline          Price      Duration
------------------------------------------------------
CDG-->VIE       AirFrance        120        100
EMA-->VIE       BritishAirways   300        300
AHN-->VIE       CathayPacific    180        250
SXF-->VIE       AirEuorpa        230        160

Enter (1) to restart or any character to End Program
```

2.2


```
Welcome to the Flight Booking System
Please enter which function would you want?
(1) Book a Flight        (2) Display Flights from an Airport
(3) Display all available Airports
2
Search Airport info-----------------
Enter Airport Code : ABCD
Invalid Airport Code: Airport Code should only have 3 characters

restart...
------------------------------------------------------------------
<<<<<<<<<<<<<<<<<<<<<<<<<<<<<Flight Booking System>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
Created by Simon Yip-----------------------------------------------

Welcome to the Flight Booking System
Please enter which function would you want?
(1) Book a Flight        (2) Display Flights from an Airport
(3) Display all available Airports
```

2.3

```
Welcome to the Flight Booking System
Please enter which function would you want?
(1) Book a Flight        (2) Display Flights from an Airport
(3) Display all available Airports
2
Search Airport info-----------------
Enter Airport Code : 123
Invalid Airport Code: Airport Code doesn't exist

restart...
------------------------------------------------------------------------
<<<<<<<<<<<<<<<<<<<<<<<<<<<Flight Booking System>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
Created by Simon Yip-----------------------------------------------------

Welcome to the Flight Booking System
```

3.1

```
------------------------------------------------------------------------
<<<<<<<<<<<<<<<<<<<<<<<<<<<Flight Booking System>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
Created by Simon Yip-----------------------------------------------------

Welcome to the Flight Booking System
Please enter which function would you want?
(1) Book a Flight        (2) Display Flights from an Airport
(3) Display all available Airports
1
Please Enter the airport you like to depart from: EMA
Please Enter the Destination: VIE
Please enter the date(dd/mm/yyyy) you want to leave: 12/12/2015

Here are the list of available flights on 12 December 2015:
Flight Option 1--------------------
Journey: EMA>>VIE
ByAirline: BritishAirways
TicketPrice: 300      DepartureTax: 20      TotalPrice: 320      Duration: 300

Flight Option 2--------------------
Journey: EMA>>CDG>>VIE
ByAirline: BritishAirways ---> AirFrance
TicketPrice: 240      DepartureTax: 50      TotalPrice: 290      Duration: 300

Flight Option 3--------------------
Journey: EMA>>CDG>>VIE
ByAirline: Ryanair ---> AirFrance
TicketPrice: 250      DepartureTax: 50      TotalPrice: 300      Duration: 280

Flight Option 4--------------------
Journey: EMA>>AHN>>VIE
ByAirline: Ryanair ---> CathayPacific
TicketPrice: 630      DepartureTax: 60      TotalPrice: 690      Duration: 480

Flight Option 5--------------------
Journey: EMA>>CDG>>SXF>>VIE
ByAirline: BritishAirways ---> AirEuropa ---> AirEuorpa
TicketPrice: 600      DepartureTax: 120     TotalPrice: 720      Duration: 680

Flight Option 6--------------------
Journey: EMA>>CDG>>SXF>>VIE
ByAirline: Ryanair ---> AirEuropa ---> AirEuorpa
TicketPrice: 610      DepartureTax: 120     TotalPrice: 730      Duration: 660

Would you like to sort flights by flight time or by cost:
(1) Time        (2) Cost        (3) Neither
```

3.2

```
Please Enter the airport you like to depart from: EMA
Please Enter the Destination: ABC
Invalid Airport Code: Airport Code doesn't exist

restart...
------------------------------------------------------------------------
<<<<<<<<<<<<<<<<<<<<<<<<<<<Flight Booking System>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
Created by Simon Yip-----------------------------------------------------

Welcome to the Flight Booking System
Please enter which function would you want?
(1) Book a Flight        (2) Display Flights from an Airport
(3) Display all available Airports
```

3.3

```
Please Enter the airport you like to depart from: EMA
Please Enter the Destination: EMA
Please enter the date(dd/mm/yyyy) you want to leave: 12/12/2015
There is no Flight going from EMA to EMA
Enter (1) to restart or any character to End Program
```

3.4

```
Please Enter the airport you like to depart from: o
Invalid Airport Code: Airport Code should only have 3 characters

restart...
-----------------------------------------------------------------------------------
<<<<<<<<<<<<<<<<<<<<<<<<<<<<Flight Booking System>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
Created by Simon Yip----------------------------------------------------------------

Welcome to the Flight Booking System
Please enter which function would you want?
(1) Book a Flight         (2) Display Flights from an Airport
(3) Display all available Airports
```

4.1 (Using the list in 3.1)

```
Would you like to sort flights by flight time or by cost:
(1) Time          (2) Cost          (3) Neither
1
Flight Option 1--------------------
Journey: EMA>>CDG>>VIE
ByAirline: Ryanair ---> AirFrance
TicketPrice: 250     DepartureTax: 50      TotalPrice: 300     Duration: 280

Flight Option 2--------------------
Journey: EMA>>VIE
ByAirline: BritishAirways
TicketPrice: 300     DepartureTax: 20      TotalPrice: 320     Duration: 300

Flight Option 3--------------------
Journey: EMA>>CDG>>VIE
ByAirline: BritishAirways ---> AirFrance
TicketPrice: 240     DepartureTax: 50      TotalPrice: 290     Duration: 300

Flight Option 4--------------------
Journey: EMA>>AHN>>VIE
ByAirline: Ryanair ---> CathayPacific
TicketPrice: 630     DepartureTax: 60      TotalPrice: 690     Duration: 480

Flight Option 5--------------------
Journey: EMA>>CDG>>SXF>>VIE
ByAirline: Ryanair ---> AirEuropa ---> AirEuorpa
TicketPrice: 610     DepartureTax: 120     TotalPrice: 730     Duration: 660

Flight Option 6--------------------
Journey: EMA>>CDG>>SXF>>VIE
ByAirline: BritishAirways ---> AirEuropa ---> AirEuorpa
TicketPrice: 600     DepartureTax: 120     TotalPrice: 720     Duration: 680

Would you like to book a flight?
Yes or No:
```

4.2

```
Would you like to sort flights by flight time or by cost:
(1) Time          (2) Cost          (3) Neither
2
Flight Option 1--------------------
Journey: EMA>>CDG>>VIE
ByAirline: BritishAirways ---> AirFrance
TicketPrice: 240      DepartureTax: 50      TotalPrice: 290      Duration: 300

Flight Option 2--------------------
Journey: EMA>>CDG>>VIE
ByAirline: Ryanair ---> AirFrance
TicketPrice: 250      DepartureTax: 50      TotalPrice: 300      Duration: 280

Flight Option 3--------------------
Journey: EMA>>VIE
ByAirline: BritishAirways
TicketPrice: 300      DepartureTax: 20      TotalPrice: 320      Duration: 300

Flight Option 4--------------------
Journey: EMA>>AHN>>VIE
ByAirline: Ryanair ---> CathayPacific
TicketPrice: 630      DepartureTax: 60      TotalPrice: 690      Duration: 480

Flight Option 5--------------------
Journey: EMA>>CDG>>SXF>>VIE
ByAirline: BritishAirways ---> AirEuropa ---> AirEuorpa
TicketPrice: 600      DepartureTax: 120      TotalPrice: 720      Duration: 680

Flight Option 6--------------------
Journey: EMA>>CDG>>SXF>>VIE
ByAirline: Ryanair ---> AirEuropa ---> AirEuorpa
TicketPrice: 610      DepartureTax: 120      TotalPrice: 730      Duration: 660

Would you like to book a flight?
Yes or No:
```

4.3

```
Would you like to sort flights by flight time or by cost:
(1) Time          (2) Cost          (3) Neither
3
Would you like to book a flight?
Yes or No:
```

4.4

```
Would you like to sort flights by flight time or by cost:
(1) Time          (2) Cost          (3) Neither
0
Selection doesn't exist, proceed to Booking...
Would you like to book a flight?
Yes or No:
```

4.5

```
Would you like to sort flights by flight time or by cost:
(1) Time          (2) Cost          (3) Neither
hello
Please enter a number

restart...
--------------------------------------------------------------------------------
<<<<<<<<<<<<<<<<<<<<<<<<<<<<<Flight Booking System>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
Created by Simon Yip--------------------------------------------------------------

Welcome to the Flight Booking System
Please enter which function would you want?
(1) Book a Flight        (2) Display Flights from an Airport
(3) Display all available Airports
```

5.1 (See the list on 3.1 to compare the flight option)

```
Selection doesn't exist, proceed to Booking...
Would you like to book a flight?
Yes or No: Yes
Please enter a number to select a flight from the list above:1

You have selected this flight:

Flight Option 1--------------------
Journey: EMA>>VIE
ByAirline: BritishAirways
TicketPrice: 300      DepartureTax: 20      TotalPrice: 320      Duration: 300

Enter Yes to confirm with the booking
Enter No if you want to cancel: Yes

****************************Receipt****************************

Flight Information

Journey: EMA>>VIE                Date of Flight: 12 December 2015
With Airline(s):
BritishAirways

FlightDuration:          300        TicketPrice:   300
FlightConnectionTime: 0             DepartureTax: 20
----------------------------------------------------------------
TotalDuration:           300        TotalPrice:    320

Thank you booking a flight with us,
you will find a copy of the receipt in the project directory
Enter (1) to restart or any character to End Program
```

5.2

```
Would you like to book a flight?
Yes or No: No
Enter (1) to restart or any character to End Program
```

5.3

```
Would you like to book a flight?
Yes or No: hello
Invalid selection, enter any character to end program
```

5.4

```
Would you like to book a flight?
Yes or No: Yes
Please enter a number to select a flight from the list above:0
Flight Option does not exist

restart...

<<<<<<<<<<<<<<<<<<<<<<<<<<<<Flight Booking System>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
Created by Simon Yip--------------------------------------

Welcome to the Flight Booking System
Please enter which function would you want?
(1) Book a Flight        (2) Display Flights from an Airport
(3) Display all available Airports
```

```
Would you like to book a flight?
Yes or No: Yes
Please enter a number to select a flight from the list above:hello
Please enter a number to select the flight

restart...

<<<<<<<<<<<<<<<<<<<<<<<<<<<<Flight Booking System>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
Created by Simon Yip--------------------------------------

Welcome to the Flight Booking System
```

5.5

```
Enter Yes to confirm with the booking
Enter No if you want to cancel: No
Enter (1) to restart or any character to End Program
```

5.6

```
Enter Yes to confirm with the booking
Enter No if you want to cancel: hello
Invalid selection, enter any character to end program
```

6.1.

```
Please Enter the airport you like to depart from: EMA
Please Enter the Destination: VIE
Please enter the date(dd/mm/yyyy) you want to leave: 32/12/2015
Invalid date, please try again

restart...
------------------------------------------------------------------------------
<<<<<<<<<<<<<<<<<<<<<<<<<<<Flight Booking System>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
Created by Simon Yip------

Welcome to the Flight Booking System
Please enter which function would you want?
(1) Book a Flight       (2) Display Flights from an Airport
(3) Display all available Airports
```

```
Please Enter the airport you like to depart from: EMA
Please Enter the Destination: VIE
Please enter the date(dd/mm/yyyy) you want to leave: 12/13/2015
Invalid date, please try again

restart...
------------------------------------------------------------------------------
<<<<<<<<<<<<<<<<<<<<<<<<<<<Flight Booking System>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
Created by Simon Yip------

Welcome to the Flight Booking System
```

```
Please Enter the airport you like to depart from: EMA
Please Enter the Destination: VIE
Please enter the date(dd/mm/yyyy) you want to leave: 12/12/2014
Invalid date, please try again

restart...
------------------------------------------------------------------------------
<<<<<<<<<<<<<<<<<<<<<<<<<<<Flight Booking System>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
Created by Simon Yip------

Welcome to the Flight Booking System
```

7.1

```
Welcome to the Flight Booking System
Please enter which function would you want?
(1) Book a Flight       (2) Display Flights from an Airport
(3) Display all available Airports
3
Airport Code    Airport Name
--------------------------------
EMA             EastMidlandsAirport
CDG             CharlesDeGaule
VIE             ViennaInternationalAirport
LAS             McCarranInternationalAirport
AHN             AthensInternationalAirport
SXF             Berlin-SchonefeldAirport
HKG             HongKongInternationalAirport
UKY             KansaiAirport
Enter (1) to restart or any character to End Program
```

8.1

```
Please enter which function would you want?
(1) Book a Flight       (2) Display Flights from an Airport
(3) Display all available Airports
0
Function doesn't exist please try again

restart...
------------------------------------------------------------------------------
<<<<<<<<<<<<<<<<<<<<<<<<<<<Flight Booking System>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
Created by Simon Yip------

Welcome to the Flight Booking System
```