**Problem:**

**Note:** All attributes should be **public** unless explicitly told to create them as private

(a) Create a **FlightBooking** class:

* The **FlightBooking** class should have the following public **class** attributes:

1. **AISLE** which should have a value of 0, this represents the code for an aisle seat on a flight
2. **MIDDLE** which should have a value of 1, this represents the code for a middle row seat on a flight
3. **WINDOW** which should have a value of 2, this represents the code for a window seat on a flight
4. **number\_of\_business\_class** which should have a value of 0 initially, this will represent the number of FlightBookings which are business\_class (FlightBookings are either business\_class or economy)

* Code the **initialiser** for the FlightBooking class, which will have parameters for the following: flight number(string), destination, cost, seat\_type(integer) and whether the FlightBooking is a business class booking or not, this last parameter should have a default value of False

In the **initialiser**, create the following instance variables:

**flight\_number** which will be initialised from the value passed in

**destination** which will be initialised from the value passed in

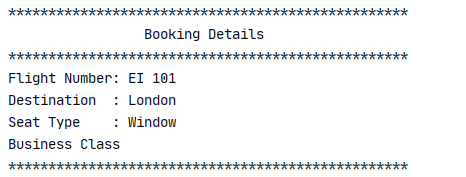
**cost** which will be initialised from the value passed in, this instance variable should be **private**

**seat\_type** which will be initialised from the value passed in

**business\_class** which will be initialised from the value passed in

* Code a **get\_cost()** method which returns the cost of the flight. No parameters required.
* Code a **print()** method which prints the FlightBooking’s details, no parameters or return value required. Print whether the seat type is an aisle, middle or window seat appropriately and print whether the flight booking is business class or not, if it is not a business class booking, you should print “Economy”. The cost should not be printed here.

**Sample Output for a business class booking:**



* The airline has brought in an additional charge to be applied to certain bookings. Code an **apply\_charge()** method that updates the cost attribute as follows. The method takes no arguments, it returns True if the charge has been applied, False otherwise.

If the booking is a business class booking and the seat is either an aisle or a window seat an additional charge of 10% of the flight cost is added to the cost of the flight.

Return True if the cost is updated, False otherwise.

* Code a **generate\_pwd()** method which generates and prints a password for the user. The rules for the password are as follows:
  + The password should start with a random number between 1 and 100 incl.
  + The remainder of the password is based on the flight number, the flight numbers are made up of 2 letters, a space and three digits, e.g. EI 101.
  + You should loop 6 times: each time generate a random value for an index into the flight number and use this random index value to retrieve a character in the flight number, add the flight number character at the generated index to the password. Do not add a space to the password.
  + When looping is complete, if the length of the generated password is less than 6, you should add additional random numeric values between 0 and 9 incl. to the password so that the password has a minimum length of 6.
  + Print the generated password to the screen. (See sample output below)
* The administrators of the system want to keep track of the number of **FlightBookings** which are business\_class, code this logic appropriately.
* Code a **static** method **get\_number\_of\_business\_class()** which returns the number of business\_class bookings.

In the **main body of the code:**

* Create a FlightBooking object for a FlightBooking with the following values:

Flight number: EI 101

Destination: London

Cost: €100.00

Seat type: 2 (i.e. Window)

It is a business class booking

* Print the FlightBooking’s details as indicated above
* Print the cost of the flight as follows. Do not hard code the FlightBooking’s number, destination or cost in the output.

**Sample Output:**



* Call the **apply\_charge()** method and print whether the cost was updated or not as follows: Do not hard code the updated cost. Print an appropriate message if the charge was not applied and the cost was not updated.

**Sample Output for above booking:**



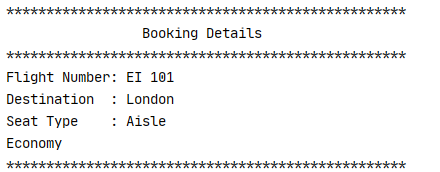
* Call the **generate\_pwd()** method to print the newly created password:

**Sample Output:**

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* Create another **FlightBooking** object for a **FlightBooking** with the following values:
  + Flight number: EI 101
  + Destination: London
  + Cost: €100.00
  + Seat type: 0 (i.e. Aisle)
  + It is not a business class booking
* Print the details:

**Sample Output:**



* Print the number of business class FlightBookings:



Output should be presented neatly but does not have to be exactly as above