

**Instructions**

1. Create a folder for your programs.
2. Your programs should have your name and group in the comment at the top, and should be commented fully.
3. Test your programs fully
4. When you have finished working on the programs, upload them all to CA2 Submission on Blackboard.
5. Make sure you have submitted all three java files
  - AirBnBBooking.java
  - AriBnBBookingTester.java
  - TechnicianList.java

**Part A (60 Marks)**

Design and implement a class representing an `AirBnBBooking`. Each `AirBnBBooking` should have a number of nights, an address, a number of occupants, and a cost per night. All of these must be set on construction. In addition, each `AirBnBBooking` should have a property type and should either allow or not allow pets. Unless these are set on construction, they should have default values of "Apartment" and false. Each `AirBnBBooking` should have a credit card number, which should be set to 0000000000000000 on construction.

Include methods for each of the following:

- Get the cost per night.
- Get the pets allowed value.
- Set the cost per night
- Get the total booking price
- Get the cost per occupant
- Update the credit card number. This method should ensure that the credit card number is 16 digits long (use a String)
- Display the credit card number. For security purposes you should display this with the first 12 digits displayed as asterix. For example, a credit card number of 1111222233334444 should display as \*\*\*\*\*4444

1. Write a java class representing an `AirBnBBooking`.
2. Write a basic tester program `AirBnBBookingTester` which calls or invokes each method of the class including any constructors.

**Part B (10 Marks)**

Add a `toString()` method and an `equals()` method to your `AirBnBBooking` class. Add code to your `AirBnBBookingTester` class to show how each of these methods could be invoked.

**Part C (10 Marks)**

Add a tax category **static** variable to your `AirBnBBooking` class. This will represent the tax category (A, B, C etc.) that an `AirBnBBooking` has. Add a **static** method `setTaxCategory()` which allows the tax category to be set for all `AirBnBBookings`. Add a line of code to your tester class to call this method.

**Part D (20 Marks)**

Download the file `Technician.java` from the **Assignment 2 Files** folder in Blackboard. Compile this file.

Create a java file called `TechnicianList`. Add code to do the following:

1. Declare an `ArrayList` of `Technicians`.
2. Declare three different `Technicians`.
3. Add these to the `ArrayList`.
4. Print out the salary of each `Technician` from the `ArrayList`.
5. Print out the average salary of all `Technicians` from the `ArrayList`