**LAB #04 TASKS**

1. Write a program using the concepts of a default constructor. Consider a computer system whose name, type, processor specification, ram, hard disk drives, mother board, optical drive etc, in a default constructor, desired values are entered by the user in a get method (that takes information from the user) and the displays the inputted information via display method. The user shall be asked to change any of the provided information if he/she agrees to change the information then new values shall be asked from the user.
2. Use Constructor to set the radius and height of cylinder and calculate surface area and Volume of cylinder.
3. Use constructor overloading to initialize a rectangle of length 4 and breadth 5 for using custom parameters.
4. Design then implement a class to represent a **Flight**. A Flight has a *flight number*, a *source*, a *destination* and a *number of available seats. This* should be implemented using proper access modifier. The class should have:
5. A **constructor** to initialize the 4 instance variables. You have to shorten the name of the source and the destination to 3 characters only if it is longer than 3 characters by a call to the method in the ‘h’ part.
6. An **overloaded constructor** to initialize the *flight number* and the *number of available seats* instance variables only.

(**NOTE:** Initialize the *source* and the *destination* instance variables to empty string, i.e." ")

1. An **overloaded constructor** to initialize the *flight number* instance variable only.

(**NOTE:** Initialize the *source* and the *destination* instance variables to empty string; and the *number of available seats* to zero)

1. A **method** **public void reserve(int numberOfSeats)** to reserve seats on the flight. (**NOTE:** You have to check that there is enough number of seats to reserve)
2. A **method** **public void cancel(int numberOfSeats)** to cancel one or more reservations
3. A **toString** method to easily return the flight information as follows:

**Flight No: 1234**

**From: KAR**

**To: LAH**

**Available Seats: 18**

1. An **equals** method to compare 2 flights.

(**NOTE:** 2 Flights considered being equal if they have the same flight number)

1. The following method:

**private String shortAndCapital (String name) {**

**if (name.length() <= 3) {**

**return name.toUpperCase();**

**} else {**

**return name.substring(0,3).toUpperCase();**

**}**

**}**

**Write a test class for the *Flight* class you wrote. You should try to use all the methods you wrote.**