# CENG218 Labwork 2

Using (and by modifying as necessary) the List classes presented in the lecture;

1. Design a C++ program which reads names and populations of provinces from the provided text file, populates a list and displays a list of provinces sorted by their populations. Your code must have a **Province** class with at least *name* (string) and *population* (int) private member variables.

   ```
   Tunceli (83645)
   Bayburt (85042)
   .
   .
   .
   Ankara (5747325)
   Istanbul (15840900)
   ```

2. Design a C++ program which reads names until "END" is entered, populates a list and displays the list of sorted names on screen. You are not allowed to use the provided *addItem* / *insertItem* functions in this question; your code **must** overload the "`+=`" operator of the list class and you must use operator notation to add new people to the list instead.

   ```
   Please enter names:
   Gökçe
   Erhan
   Selin
   Cansu
   Aydolu
   Nadide
   Ata
   . . .
   END

   Result:
   Ata
   Aydolu
   Cansu
   . . .
   ```

3. Write a simple airline ticket reservation program that will display a menu with the following options:

   - reserve a ticket,
   - cancel a reservation,
   - check whether a ticket is reserved for a particular person,
   - display the passengers.

   The information is maintained as a list of names. You are expected to develop a program where tickets are reserved for only one flight. Design Flight class with the following member attributes and functions:

   - **flight no**: string
   - **maximum number of seats**: 25
   - **number of passengers**: int
   - **list of passengers**: an array of strings
   - **reserveSeat**: this function takes one parameter which is the name of passenger making reservation (first available seat). This function returns true for successful reservation, otherwise false.

- **cancelReservation**: This function takes one parameter which is the name of the passenger canceling the reservation. This function returns true for successful cancellation, otherwise false.
- **numberOfPassengers**: This function returns the current number of passengers that reserved seats.
- searchUser: This function search the person who reserves a ticket or not. If the user has already reserved, returns true otherwise false.
- **printPassengers**: This function prints passengers that reserved seats.

Display appropriate messages on screen to guide the user.