Assignment # 1
Data Structures & Algorithms

Due Date: 11-09-2018 (11 pm) **Marks: 30**

Submission Guidelines:

- Submit all three files on Slate. Details at the end
- In case you are late by few minutes, then you may submit at dsfast@gmail.com with a penalty of 30%. Late submissions by more than **15** mins will NOT be entertained
- Name/rename your submission files as "Assig#-batch#-roll#.cpp", e.g., "Assig02-16-955.cpp".
- Files with build errors will get ZERO marks. Check your code on Code Composer, before you submit.

Link List

Create a Link List class to store the Person class objects. The struct nodetype will be modified as:

```
struct nodeType {
      Person info;
      nodeType *link;
}
```

Include the ***tail*** pointer and an integer ***count*** other than the head pointer in the link list class. Tail pointer always points to last node of link list, whereas count should be incremented and decremented whenever new node is added or deleted. You need to modify the functions of link list to accommodate the above mentioned changes.

Before you define the link list class, you need to define Person class, which should contain the following private data members. This class will be used to store the information given in the provided data file

- First Name (string)
- Last Name (string)
- Telephone (string)
- email (string)

Now write your program, which should read the provided data file at the start containing Persons data, store the data in the link list and then present the following menu.

The menu shown should be:

- Find and show person's data given its name (5marks)
- Add new Person entered by user (5marks)
- Delete the data of a Person (5marks)
- Show the data of all Persons (10marks)
- Exit

Upon exit, the provided data should be replaced with the current data in the link list, so that any changes to the data can also be saved in the file as well (5marks)

Submission:
You will submit three files

- Link list header file containing the code for link list class
- Person header file containing the code for Person class
- Source code file