BLG 233E DATA STRUCTURES AND LABORATORY

EXPERIMENT 3 – DYNAMIC MEMORY

IMPORTANT REMINDERS

1. It is not allowed to use USB sticks during the lab sessions.
2. You should unplug your ethernet cables during the lab sessions.
3. Any reference book or help material (C++) is allowed.
4. Any lab sheets that belong to previous weeks are not allowed.

In this experiment, you are required to write a phonebook application by yourself. In previous weeks, arrays used for storing data were static. Now, you should implement dynamic arrays for storing your data.

- Write the structures for this aim. Remind that your arrays will be dynamic.
- Variables for names and surnames of records should also be dynamic and their sizes should be decided according to the length of user's input during runtime.
- You should implement the following methods for your structure. add(), remove() and list().
- add() should add records alphabetically and you don't need to implement any file operations.
- Consider the situation where the size of your record array may be inadequate to store records. For instance, you may allocate size of 100 but user may want to add 101st record. In this situation, you should double your array size (if size is 10, new size of the array should be 20).
- remove() method should not leave any blank records on array. You should slide related records in order to eliminate these blanks.
- list() method should print records to the screen (Use a pointer to traverse the array).
- You should deallocate memory before termination of your program.
- As a bonus, you may implement search() and update() methods as well. (20 points)