

1. Complete the following methods on Searching and Sorting.
2. You may use any language to complete the tasks.
3. You need to submit one single file containing all the methods/functions. You will get **10 days** to complete your lab. **NO LATE SUBMISSIONS WILL BE TAKEN**
4. The submission format **MUST** be maintained. You need to copy paste all your codes in **ONE SINGLE .txt** file and upload that. If format is not maintained, whole lab submission will be canceled.
5. If you are using **JAVA**, you must include the **Tester class** containing the main method which should test your other methods.
6. If you are using **PYTHON**, make sure your code has the methods invoked through **test statements**.
7. Usage of built in methods/libraries are **NOT ALLOWED**
8. The google form link for this lab is provided in BUX under LAB 6 Searching and Sorting subsection under the FALL21 CSE220 lab tab.

## Searching and Sorting Lab

1. Sort an array **RECURSIVELY** using **selection** sort algorithm.
2. Sort an array **RECURSIVELY** using **insertion** sort algorithm.
3. Sort a **singly linked** sequential list using **bubble** sort algorithm.
4. Sort a **singly linked** sequential list using **selection** sort algorithm.
5. Sort a **DOUBLY linked** sequential list using **insertion** sort algorithm.
6. Implement **binary search** algorithm **RECURSIVELY**.

7. Implement a recursive algorithm to find the  $n$ -th Fibonacci number using memoization.