

Lab Goal : This lab was designed to teach you more about sorting and searching.

Lab Description : Input the data file and sort them using an “insertionSort” algorithm in a method called “sortNames()”. Then take a group of Strings and organize them alphabetically. As you add new items, maintain the sorted order of the list. New items should always be added in a way that maintains the sorted order of the list.

Sample Output :

```
adding alice
adding tommy
adding bobby
adding annabell
adding sallysue
adding sallymae
printing the list ::  alice annabell bobby sallymae sallysue tommy
```

```
removing bobby
printing the list ::  alice annabell sallymae sallysue tommy
```

```
removing alice
printing the list ::  annabell sallymae sallysue tommy
```

```
adding fred
adding xylophone
printing the list ::  annabell fred sallymae sallysue tommy xylophone
```

```
removing tommy
printing the list ::  annabell fred sallymae sallysue xylophone
```

```
removing fred
removing annabell
removing sallysue
printing the list ::  sallymae xylophone
```

Files Needed ::

```
InsertionSort.java
InsertionSortRunner.java
names.dat
```

Algorithm Help

- 1st - Check to see if the item exists in list - quit method if item exists
- 2nd - If the item does not exist in the list, find the proper place to insert the new item in order to maintain the sorted order of the list.
- 3rd - You will use add to insert the new item in the proper location.

NOTICE

**You may NOT use Arrays.sort()
or Collections.sort() !**