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**BST-BCS-11a :** Algorithms and Data Structures

**Prepared by :** Prof. Dr. Hasan DAĞ

**Due Date :** 03.07.2022

**Due Time :** 23:59

**Work Type :** Homework 1

**Name, last name :**

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**Problem Statement (Basic part: 100 points).** Assume that you are given a file named **Homework1\_Data.txt** and it contains data in format below unknown number of students. All we know, the file is terminated with an E.O.F (End Of File) marker.

**Name, Lname, Age, Height, Gr1, Gr2, Gr3, Gr4, Gr5, Address.**

John, Doe, 25, 1.72, A, B, C, D, A, Berlin, Reiner Str 54.

Jane, Beauty, 23, 1.73, B, C, C, D, B, Berlin, Alex Str. 115.

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Define a data structure to hold this data for an unknown number of students, read data from the file and populate your data structure. Having read the data, now sort the data with respect to (w.r.t.) students’ heights and print both unsorted and the sorted data.

***Optional*** (for 50 additional points): In the basic case you are asked to order the data w.r.t. students’ heights. If you, instead, parametrize the ordering, that is order the data according to the user’s choice (Name, Lname, Age, Height, Grades, or Addresses) you would earn an additional 50 points on this homework.