

Homework #7

All code implemented in this assignment should be in a class called `Homework7`. You may use the data structures and algorithm code from the lecture notes.

- a) **(6 points)** Implement a method called `outputSorted` that sorts an array of `Person` objects *using only a Heap*. The method should take an array of `Person` objects and a comparator.

`outputSorted` should initialize a `Heap` with the given comparator, insert the people into the heap, then extract and output each person from the heap. The array should not be modified by `outputSorted`.

Type `Person` should be defined as follows:

```
class Person {
    String name;
    int age;
    double height;
}
```

- b) **(1 point)** Demonstrate `outputSorted` taking an array of at least 5 unsorted people then outputting those people sorted by **ascending name**.
- c) **(1 point)** Demonstrate `outputSorted` taking an array of at least 5 unsorted people then outputting those people sorted by **ascending age**.
- d) **(1 point)** Demonstrate `outputSorted` taking an array of at least 5 unsorted people then outputting those people sorted by **ascending height**.
- e) **(1 point)** Make sure your source code is well-commented, consistently formatted, uses no magic numbers/values, follows programming best-practices, and is ANSI-compliant.

Turn in all source code, program output, diagrams, and answers to questions in a single PDF document.