In class exercise. Suppose you are given a vector x = (x1, …, xn) with n elements.

You cannot inspect the array elements directly but have access to comparison queries.

That is, you can issue queries of the form

“How is xi compared to xj?” and get back the answer in the form of “<“, “=“, or “>”.

Show that the trivial algorithm that sets the initial maximum to equal the first element of the array and then iteratively compares the current maximum to the next element of the array until the end

- Makes n-1 comparisons
- Is optimal: there is no algorithm that is always correct and makes fewer comparisons.

Solution: in class. ***Hint:*** use trees.