1. Write a program that computes the greatest common divisor of two numbers \(x\) and \(y\) using the Euclidean algorithm. The Euclidean algorithm is defined as follows: if \(x = y\), then return \(x\) (or \(y\)), otherwise \(gcd\(\text{gcd}(x, y) = gcd\(x - y, y\)\) where \(x > y\).

2. Write a function \texttt{noOfElem} that counts the number of elements in a list. Your function should return the same result as the function \texttt{length}.

3. Use the function \texttt{noOfElem} of the previous exercise to write a function \texttt{countElem} which counts how many times a given element appears in the list. Do not use the function \texttt{length}. You may use other functions, though.

4. (a) Write a function that takes two lists \(x\) and \(y\) as input and returns \texttt{True} if \(x\) is a prefix of \(y\) (otherwise it returns \texttt{False}).

   For example,
   - \([\ ]\) is a prefix of any list
   - \([3, 5]\) is a prefix of \([3, 5, 10, 9, 8]\)
   - \([3, 5, 7]\) is not a prefix of \([3, 5]\)
   - \([2, 3]\) is not a prefix of \([1, 2, 3, 4]\)
   - non-empty lists are never a prefix of \([\ ]\)

(b) Write a function that takes two lists \(x\) and \(y\) as input and returns \texttt{True} if \(x\) is a subsequence of \(y\) (otherwise it returns \texttt{False}).

   For example,
   - \([\ ]\) is a subsequence of any list
   - \([3, 5]\) is a subsequence of \([3, 5, 9, 8]\)
   - \([3, 5, 7]\) is not a subsequence of \([3, 5]\)
   - \([2, 3]\) is a subsequence of \([1, 2, 3, 4]\)
   - non-empty lists are never a subsequence of \([\ ]\)
5. Implement a function `orderIt` that implements the Quicksort algorithm to sort a list. Take the head of the list as pivot element and use set comprehension to partition the elements of the list.