How could you use the "divide and conquer" principle (familiar from the fake gold coin assignment, for example) to find where in a data structure (array, for example) a given value is found? You are allowed to make restrictions on the contents of the data structure (the order of the elements, for example).

The ”divide and conquer” principle uses recursion such that a problem is broken into smaller subproblems which are the same as the original problem. I think the problem of finding a given value in a data structure can be solved using the binary search. In binary search, we first sort the data structure elements.

Function binary search A for x:

{ check middle element A[mid]

if A[mid] == x

return mid

if A[mid]>x

binary search A.LH for x

if A[mid]<x

binary search A.UH for x

if all elements have been search

return -1

}

The purpose of this assignment is to practise using git version control system. **NOTE!** The deadline of this assignment is week later than normally. If you haven't used git before, you can first go to the weekly exercise session, where the basic use of git is briefly covered. Git instructions can be found on the course [web pages](http://www.cs.tut.fi/~tiraka/en/harjoitustyo_ymparisto.shtml).

In this assignment nothing is submitted to Moodle. The assignment is as follows:

1. From Gitlab get the programming assignment repository.
2. Fetch code for the first programming assignment from the course's "upstream" repository course-upstream
3. Add file weeklyassignment.txt to the top directory/folder. In the file, you can tell how much you have used git previously (if at all).
4. Add the new file to Git.
5. Commit your changes.
6. Push changes back to Gitlab. Check using web browser that the file really ended up there.
7. That's it!