

Assignment 2

Problem I. Write an algorithm to find the g.c.d. of two numbers.

Problem II. Write an algorithm to define a function `fold`. `fold` takes two arguments. The first one takes two elements of a certain type and returns a single element, like addition or multiplication. The second argument is a list. `fold` will return the list untouched if it has 0 or 1 element. If it has more than that, it applies the function on the first two elements. Then it applies the function to the result of this operation to the third element and so on. Thus `fold(addition, list)` will return `sum(list)`.

Problem III. Write an algorithm which given a linux absolute file path (in the form of a string, e.g. `"/home/user/python/example.py"`, returns a tuple (l, f) where l is the list of folders leading to the file, and f is the name of the file. Applied on our example it should return `(['home', 'user', 'python'], 'example.py')`.