**Problem A. Key Word in Context (KWIC)**

*The chosen solution: Abstract Data Types.*

To solve this problem using this practice we need to split it into functions and states which will be separable into classes.

First of all we have two parts of the potential program: an output/input flow and the main algorithm which can be black black box at this point. Output and input are similar functions connected with interaction with a user. In this case we can unite them into one class which can be named **„ioflow“**.

Then we need to uncover the blackbox and look at the algorithm. We have text which can consist of different parts, for example title, image, main text, etc. These parts can be isolated by class **„Text“**.

We will need to do some actions with Text during solving the problem. It can be a function of Text class but for this function lines will be needed as arguments. So this algorithm will highly depend on how line data structure is implemented. It will be helpful if we add an additional structure named **„Line“** which will define an implementation.

During execution of this algorithm we will need to get information about words (its‘ first letter in particular), so **„Word“** is an additional class with its own structure and functions.

Finally, a solution class should be added for using these classes and preparing text.

**Problem B. Eight Queens (8Q)**

*The chosen solution: Main/Subroutine with stepwise refinement.*

To solve this problem we can use such decomposition in the first iteration. We need to input data, find all solutions and then print the result. For such purposes input, output and allsolutions packages were added. At the second iteration we can go deeper and according to advice in the paper (which was mentioned in the task) we can find and hide data structures and split solution finding actions into smaller parts. In this problem we are working with Board, Cells on this board and Points. Solution algorithm can be divided into preparing a start position and checking one solution process.