Assignment

Write a console application that processes a word list. The application should print all the 6-letter words from the list, that can be obtained by concatenating two other words from the list.

An example: The word “albums” is printed, because the words “al”, “bums” and “albums” are in the word list.

Print the result as follows:

al + bums => albums

bar + ely => barely

be + foul => befoul

con + vex => convex

here + by => hereby

jig + saw => jigsaw

tail + or => tailor

we + aver => weaver

**Remarks**

* The word list is in the wordlist.txt file, located on your desktop.
* Pay special attention to the readability of your code, as well as the extendibility/flexibility.
* Make sure that the performance of your solution is acceptable.
* Use OO principles.
* Optional: Initialise a local git repository and indicate your progress by using small commits.
* Optional: TDD.

**Timing**

* Expected duration: 45 min.
* We’ll check every 15 minutes, to see how things are going.
* Not finished? No problem. The main focus of this assignment is to get an idea of your method of problem solving, and of your code style. Make sure that what you are coding, is something you are proud of.

**Additional questions**

* How did you begin to solve this problem? What were your first steps?
* Do your classes follow the Single Responsibility Principle?
* How would you have to change your code, to make it work with millions of words, instead of thousands?
  + Use streams: This would avoid loading everything into memory, but it also would prevent using any optimizations.
  + Use Hash tables: By dividing the source into different buckets, you can limit the amount of data that has to reside in memory.
* What would you have to change when the length of the word changes?
* If you had unlimited time, how would you improve your solution?
* Can you draw a model of the ideal solution, in your opinion?
* Could you identify reusable parts, and find good names for them?
* Which parts of your code violate the best practices of Object Orientation?
* Use Dependency Injection / Inversion of Control?
* How would you go about making this project ultra-performant?
* Would you use a collection of String, or a collection of a custom Word class? Why?
* How do you feel about the test? Did it allow you to show your potential or skills?