

CS1020 Take-home Lab #2

Exercise #1: KWIC Index System

http://www.comp.nus.edu.sg/~cs1020/3_ca/labs.html

Objectives:

1. Using **ArrayList** class
2. Using **String** class

Task statement:

(Note that unless otherwise stated, you may assume that all input data are valid and hence there is no need for you to perform input data validation.)

The *Key Word In Context* (KWIC) system provides a search mechanism for information in a long list of strings. Given a list of strings which are movie titles, and a list of “words to ignore”, your program should generate a KWIC index of every movie title.

In a KWIC-index, a title is listed once for each keyword that occurs in the title. The keyword should not be in the “words to ignore” list, and the KWIC-index is alphabetised by keywords.

For each movie title, you should circularly shift it by moving the first word to the end of the title. The resulting string is included in the KWIC only if the first word is not in the “words to ignore” list.

The program **KWIC.java** should define the KWIC class and the application program **KWICIndexSystem.java** should output a list of the circularly shifted strings for all movie titles in alphabetical order. All keywords in the strings should start with an upper-case letter.

For example, if the movie title is “You are the apple of my eye”, and the list of words to ignore are “the”, “of” and “are”, then the KWIC includes the following strings (not in alphabetical order):

- You are the Apple of My Eye
- Apple of My Eye You are the
- My Eye You are the Apple of
- Eye You are the Apple of My

The input starts with a positive integer T , which represents the number of the words to be ignored, followed by T words (one word per line), which are the words to be ignored. After that, another positive integer S will be given, which indicates the number of movie titles, followed by S movie titles (one title per line).

The symbols T and S are used above for convenience. In your program, you should use descriptive names and follow Java naming convention.

Number of submissions: You are given **15** submissions. Only the final submission will be graded.

Input:

5
is
the
of
are
and
2
You are the apple of my eye
Hunger Games

Output:

Apple of My Eye You are the
Eye You are the Apple of My
Games Hunger
Hunger Games
My Eye You are the Apple of
You are the Apple of My Eye