Tutorial 5-6 Implementation

1 Description

In this tutorial, you will have a hands-on practice on Java implementation of the KEngine and the programs that you designed in the previous tutorials. If necessary, refer to the relevant lecture slides about the KEngine's design and implementation.

2 Tasks

2.1 Xref

Work in pairs to complete the following tasks:

1. Study the provided design specification and partial code implementation. Refer to your design note book of the program for details.
2. Complete the implementation by writing code for each of the `TODO` comments.
3. Discuss briefly the implementation plan that was used.
4. Discuss if and how a different implementation plan can be used for the design.

2.2 SpellChecker

Work in pairs to complete the following tasks:

1. Study the provided design specification and partial code implementation. Refer to your design note book of the program for details.
2. Complete the implementation by writing code for each of the `TODO` comments.
3. Discuss briefly the implementation plan that was used.
4. Discuss if and how a different implementation plan can be used for the design.

2.3 PathFinder

Work in pairs to complete the following tasks:

1. Study the provided design specification and partial code implementation. Refer to your design note book of the program for details.
2. Complete the implementation by writing code for each of the `TODO` comments.
3. Discuss briefly the implementation plan that was used.
4. Discuss if and how a different implementation plan can be used for the design.

2.4 KEngine

Work in pairs to complete the following tasks:

5. Copy the `kengine` package in the provided zip-compressed source code into a code project of your IDE. When finished, you should see appearing in your source code tree four sub-packages that are labelled version 1-4 together with a number of other files.
   You will need these to complete the subsequent tasks.
6. Currently all the versions donot have a `main` method to run the engine. Under each version subpackages, write a Java class named `EngineMain` that has a single `main` method. This

method must perform the followings:

a) initialise a new Engine

b) invoke the `Engine` methods in some suitable order to perform the tasks designated to the engine. Note:

- that certain methods may not actually perform any code because all but version 4 are only a partial implementation of the engine
- you may need some example documents and query data to run the engine with

c) print suitable messages on the console to inform the user of what the engine is currently doing

7. Execute `EngineMain` for each version and make sure that they run successfully. If you encounter a problem, debug and correct your code.
8. There is at least one other (relatively obvious) hybrid implementation plan for KEngine. Identify this plan and draw it up by highlighting groups of KEngine classes that you would implement in each iteration under this plan.
9. Draw up a top-down implementation plan for KEngine.
10. Draw up a bottom-up implementation plan for KEngine.

3 Submission

Submit your report to the home work submission box of this tutorial on the FIT portal. Name the file as follows: ***student-id*_*class*_hwk5-6.zip**, where ***student-id*** is your student id, ***class*** is the code of the class that you attend.