UML Sequence Diagram

Dynamic analysis of given Java Source code to generate a UML Sequence diagram.

Usage:

Requirements:

- Java to be installed in the system to run the jar file
- AspectJ compiler and tools must be installed using the following steps

```
## Install AspectJ Compiler & Tools
  $ pwd
  /home/ubuntu
  $ ls
  lib/  workspace/
  $ unzip workspace/aspectj/aspectj1.8.zip
  creating: aspectj1.8/
  creating: aspectj1.8/bin/
  inflating: aspectj1.8/bin/aj
  ...

## Setup AspectJ and Java Home

  $ vi /home/ubuntu/.bashrc

  # SET UP ASPECTJ and JAVA
  export CLASSPATH=/home/ubuntu/aspectj1.8/lib/aspectjrt.jar:.
  export PATH=$PATH:/home/ubuntu/aspectj1.8/bin:.
  export JAVA_HOME=/usr/lib/jvm/java-7-openjdk-amd64
  export ASPECTJ_HOME=/home/ubuntu/aspectj1.8
  export ASPECTJ_RT=home/ubuntu/aspectj1.8/lib/aspectjrt.jar
```

- Add provided jar files to the class path , “aspectjrt.jar” , “junit-4.10.jar” , “aspectjtools.jar”and “plantuml”.

Command to run:

- The program expects the below arguments
    - Path:
        - Full path of the folder which contains all the .java files .
        - Ex: "/Users/Madhu/Documents/foldername" (specific to OS)
    - Classname:
        - The classname of junit testcase must be provided. In the given testcase it is ObserverTest
    - Output filename:
        - The name of the output image file to be generated.
        - The file is created in the same location as given in Path.
        - The program creates given output file name with png extension, so it is not needed to include extension.

Example:

./sequence.sh /Users/Madhu/Documents/Courses/202/personalProject/seqFinal/design/umlparser/uml-sequence-test ObserverTest output

Before running the above command change sequence.sh to execution mode using chmod +x sequence.sh . The command must be executed from provided source code folder.

<The above command creates output.png in /Users/Madhu/Documents/Courses/202/personalProject/seqFinal/umlparser/uml-sequence-test folder >

The jar files required are provided in RequiredJarFiles zip folder. sequence.sh is the bash file which copies the required source code to the given path and generates the sequence diagram. The source code is provided in sequenceDiagramProject.zip

The output image of given testcase is provided in the OutputImage folder.

Details of libraries and tools used:

The provided myAspect.aj file creates the grammar generated by dynamic analysis of given java source code which is used by SequenceDiagram.java file to generate diagram in the given path folder using plantuml.

Junit jar: In order to run given test case Junit jar file is used by adding to classpath.

Diagram Generation: To generate image from the grammar generated by the project , I used plantuml.

http://plantuml.com/

Plantuml is an online free tool which helps to generate sequence diagram.

plantuml jar file is added to class path.