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# SOFTWARE REVERSE ENGINEERING TOOL BASED ON COMPILED AND INTERPRETED JAVA FILES

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Incomplete requirement specification leads to software development projects being challenged or cancelled before completion. Unified Modeling Language is a modeling language which used to model the requirement specifications during the software engineering process. Sequence Diagram (SD) is a kind of UML diagram that shows interactions between actors and the system and between system components. During software coding program may have been corrupted by a series of changes. The software reverse reengineering process helps to analyse the code by creating a sequence diagram for any Java source file. Normally UML diagram creation lead to coding but in software reverse engineering the diagram creation occurs after creating the source file. It is a very helping tool for students who are new to software development because firstly they can get the clear picture of any source file as a UML diagram, after that they can easily make UML diagrams before diving into the coding as source files. It is a reversible process in software engineering to help the people to use and understand UML diagram for any source file very easily. Java has its owned build-in library class files that provide different services. Regex and Reflection are examples for these library class files. If a class free from compile-time and run-time errors then can use these library class files to extract object information and method information within the main method of a Java class. The sequence of the object and method information is maintained by using a stack so to be able to maintain the method calling sequence between objects. These object and method information stored in information file and retrieve to plot corresponding sequence diagram in the applet viewer. The information gathering class responsible for information mining from source Java file and applet class responsible for plot the sequence diagram for corresponding information saved in information file. This software reverse engineering tool responsible for plot corresponding sequence diagram for given Java file which contained main method and not a build-in Java library file. Software reverse engineering process capable to working back word form an existing product or create specification descriptions which is done at the software modeling stage of user specification of software engineering process.