Libraries and tools used for drawing class diagram:

The source code is available under src in umlparser_010688938 directory

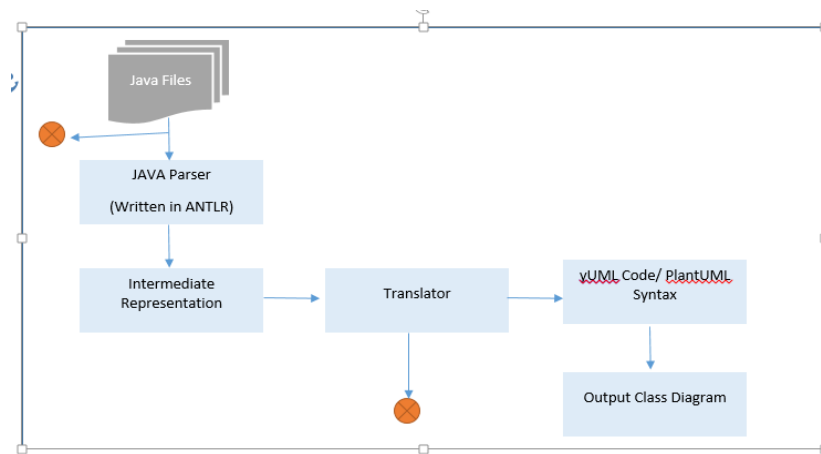**Java:** For development of the UML Parser tool.
ANTLR: Used for parsing java source files. The grammar was used from
https://github.com/antlr/grammars-v4/blob/master/java/Java.g4
GraphViz: Its an open source graph visualization software.
PlantUML: Provides syntax to write class diagram description and calls GraphViz to draw the diagram.
yUML : To draw class diagrams using yUML tool, a REST API call has to be made to the server. The final, class diagram gets saved to the path specified.

Design Approach:

1. Read the .java file.
2. Parse it using Java Parser written in ANTLR, populate Intermediate Representation(IR) in data-structures like, ClassInfo, MethodInfo, VariableInfo and store all of that in a global data-structure.
3. Build an optimized graph by handling conditions like, getter-setter, multiple uses to same destination, creating associations, computing cardinality etc.
4. Using optimized graph, translate the IR information in yUML Code and PlantUML Syntax and draw the graphs.