

Team Project: Java Class Viewer

2110312 Programming Languages and Compilers (Second Semester/2546)

In this class, students are required to work on the team projects. Each team can consist of 4-5 students. Each team must write a class viewer, a compiler that takes a source program written in a Java language, recognizes, and generates class structure information in HTML/CSS/DHTML formats. **At the end of the semester, the compiler must be able to compile a set of benchmark suite (a collection of short Java programs) provided by the instructors and the cross reference information in HTML/CSS/DHTML formats must be viewable by Microsoft's Internet Explorer 5.0 or better.**

The cross reference information should include (but not limited to):

- Class name.
- Extend/implement (hierarchy of inheritance)
- List of data members.
- List of methods.

In order to complete this project, students must understand the structure of Java language, the HTML generation, and the recognition of Java language. During the semester, each team is required to submit the following reports:

1. The Scope of Cross Reference Information and Samples of Some Translation

Scheme of Java Cross-Referencer (30 January 2004)

Study the scope of the project and class structure information. Describe the Java programming structures that are related to the cross reference, for example, class structure. Study the Java grammar. It is recommended that the team should find Java grammar from the Internet. Do not re-invent the wheel by rewriting Java grammar. The report must also include briefs description of the translation schemes of the structure. The length of the report must not be longer than 10 pages (the shorter, the better).

2. Final Project Report (during the final presentation)

Complete the compiler and write the complete report of how to implement this project. The compiler should be implemented with one of compiler generator tools such as Yacc, Javacc, Cup, etc. The length of the final report must not be exceeding 15 pages (the shorter, the better). The report must also include complete source code in the appendix (which will not be counted toward 15-page limitation).

The first report must be submitted to the department staff on the 17th floor before 16.00 of the due date. The final report will be submitted during the final presentation. Any late report will not be accepted.

The final presentation and the demonstration of your project are required. To ensure that everyone has contributed and understood the project, the team must declare the responsible person of each module. In the case that there is more than one student working on the same module, all students must be able to clearly point out which part of the module they are responsible. In addition, everyone must be able to answer all basic questions of the project and any questions that are related to the module they are responsible. The team will be graded based on the completeness of the project, the balance of the workload among team members, and the person who **cannot answer** the most questions. The time of the demonstration will be announced later (should be around early March).

Important note: If the instructor has found or suspected that any team has copied the work from another team with or without the permission. Both teams (the original and the copier) will receive 0 points for the project score.